

Readopt He-P 4090.01, effective 9-17-21 (Document #13261), cited and to read as follows:

PART He-P 4090 ANNUAL LIMITS ON INTAKE (ALI) AND DERIVED AIR CONCENTRATIONS (DAC) OF RADIONUCLIDES FOR OCCUPATIONAL EXPOSURE; EFFLUENT CONCENTRATIONS; CONCENTRATIONS FOR RELEASE TO SANITARY SEWERAGE

He-P 4090.01 Annual Limits on Intake (ALI) and Derived Air Concentrations (DAC) of Radionuclides For Occupational Exposure; Effluent Concentrations; Concentrations for Release To Sanitary Sewerage. The annual limits on intake (ALI) and the derived air concentrations (DAC) of radionuclides for occupational exposure, effluent concentration, and concentrations for release to sanitary sewerage shall be in compliance with Table 4090.1 below:

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
1	Hydrogen-3	Water, DAC includes skin absorption	8E+4	8E+4	2E-5	1E-7	1E-3	1E-2	
Gas (HT or T ₂) Submersion ¹ : Use above values as HT and T ₂ oxidize in air and in the body to HTO.									
4	Beryllium-7	W, all compounds except those given for Y	4E+4	2E+4	9E-6	3E-8	6E-4	6E-3	
		Y, oxides, halides, and nitrates	-	2E+4	8E-6	3E-8	-	-	
4	Beryllium-10	W, see ⁷ Be	1E+3 LLI wall (1E+3)	2E+2	6E-8	2E-10	-	-	
		Y, see ⁷ Be	-	1E+1	6E-9	2E-11	2E-5	2E-4	
6	Carbon-11 ²	Monoxide	-	1E+6	5E-4	2E-6	-	-	
		Dioxide	-	6E+5	3E-4	9E-7	-	-	
		Compounds	4E+5	4E+5	2E-4	6E-7	6E-3	6E-2	
6	Carbon-14	Monoxide	-	2E+6	7E-4	2E-6	-	-	
		Dioxide	-	2E+5	9E-5	3E-7	-	-	
		Compounds	2E+3	2E+3	1E-6	3E-9	3E-5	3E-4	
9	Fluorine-18 ²	D, fluorides of H, Li, Na, K, Rb, Cs, and Fr	5E+4 St wall (5E+4)	7E+4	3E-5	1E-7	-	-	
		W, fluorides of Be, Mg, Ca, Sr, Ba, Ra, Al, Ga, In, Tl, As, Sb, Bi, Fe, Ru, Os, Co, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, Sc, Y, Ti, Zr, V, Nb, Ta, Mn, Tc, and Re	-	9E+4	4E-5	1E-7	-	-	
		Y, lanthanum fluoride	-	8E+4	3E-5	1E-7	-	-	
11	Sodium-22	D, all compounds	4E+2	6E+2	3E-7	9E-10	6E-6	6E-5	
11	Sodium-24	D, all compounds	4E+3	5E+3	2E-6	7E-9	5E-5	5E-4	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III			
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)		
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)				
12	Magnesium-28	D, all compounds except those given for W W, oxides, hydroxides, carbides, halides, and nitrates	7E+2	2E+3	7E-7	2E-9	9E-6	9E-5	-		
13	Aluminum-26	D, all compounds except those given for W	4E+2	6E+1	3E-8	9E-11	6E-6	6E-5	-		
		W, oxides, hydroxides, carbides, halides, and nitrates	-	9E+1	4E-8	1E-10	-	-			
14	Silicon-31	D, all compounds except those given for W and Y	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3	-		
		W, oxides, hydroxides, carbides, and nitrates	-	3E+4	1E-5	5E-8	-	-			
		Y, aluminosilicate glass	-	3E+4	1E-5	4E-8	-	-			
14	Silicon-32	D, see ^{31}Si	2E+3 LLI wall (3E+3)	2E+2	1E-7	3E-10	-	-	-		
		W, see ^{31}Si	-	1E+2	5E-8	2E-10	4E-5	4E-4			
		Y, see ^{31}Si	-	5E+0	2E-9	7E-12	-	-			
15	Phosphorus-32	D, all compounds except phosphates given for W	6E+2	9E+2	4E-7	1E-9	9E-6	9E-5	-		
		W, phosphates of Zn^{2+} , S^{3+} , Mg^{2+} , Fe^{3+} , Bi^{3+} , and lanthanides	-	4E+2	2E-7	5E-10	-	-			
15	Phosphorus-33	D, see ^{32}P	6E+3	8E+3	4E-6	1E-8	8E-5	8E-4	-		
		W, see ^{32}P	-	3E+3	1E-6	4E-9	-	-			
16	Sulfur-35	Vapor	-	1E+4	6E-6	2E-8	-	-	-		
		D, sulfides and sulfates except those given for W	1E+4 LLI wall (8E+3)	2E+4	7E-6	2E-8	-	-			
		W, elemental sulfur, sulfides of Sr, Ba, Ge, Sn, Pb, As, Sb, Bi, Cu, Ag, Au, Zn, Cd, Hg, W, and Mo. Sulfates of Ca, Sr, Ba, Ra, As, Sb, and Bi	6E+3	-	-	-	1E-4	1E-3			
17	Chlorine-36	D, chlorides of H, Li, Na, K, Rb, Cs, and Fr	2E+3	2E+3	1E-6	3E-9	2E-5	2E-4	-		
		W, chlorides of lanthanides, Be, Mg, Ca, Sr, Ba, Ra, Al, Ga, In, Tl, Ge, Sn, Pb, As, Sb, Bi, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, Sc, Y, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W, Mn, Tc, and Re	-	2E+2 Table I	1E-7	3E-10 Table II	-	Table III			
Occupational Values											
Col. 1 Oral			Col. 2			Col. 1 Effluent Concentrations		Releases to Sewers			
								Monthly			

Atomic No.	Radionuclide	Class	Ingestion	Inhalation		Air ($\mu\text{Ci}/\text{ml}$)	Water ($\mu\text{Ci}/\text{ml}$)	Average Concentration ($\mu\text{Ci}/\text{ml}$)
			ALI (μCi)	ALI (μCi)	DAC ($\mu\text{Ci}/\text{ml}$)			
17	Chlorine-38 ²	D, see ^{36}Cl	2E+4 St wall (3E+4)	4E+4	2E-5	6E-8	-	-
		W, see ^{36}Cl	-	5E+4	2E-5	6E-8	3E-4	3E-3
17	Chlorine-39 ²	D, see ^{36}Cl	2E+4 St wall (4E+4)	5E+4	2E-5	7E-8	-	-
		W, see ^{36}Cl	-	6E+4	2E-5	8E-8	5E-4	5E-3
18	Argon-37	Submersion ¹	-	-	1E+0	6E-3	-	-
18	Argon-39	Submersion ¹	-	-	2E-4	8E-7	-	-
18	Argon-41	Submersion ¹	-	-	3E-6	1E-8	-	-
19	Potassium-40	D, all compounds	3E+2	4E+2	2E-7	6E-10	4E-6	4E-5
19	Potassium-42	D, all compounds	5E+3	5E+3	2E-6	7E-9	6E-5	6E-4
19	Potassium-43	D, all compounds	6E+3	9E+3	4E-6	1E-8	9E-5	9E-4
19	Potassium-44 ²	D, all compounds	2E+4 St wall (4E+4)	7E+4	3E-5	9E-8	-	-
			-	-	-	5E-4	5E-3	
19	Potassium-45 ²	D, all compounds	3E+4 St wall (5E+4)	1E+5	5E-5	2E-7	-	-
20	Calcium-41	W, all compounds	3E+3 Bone surf (4E+3)	4E+3 Bone surf (4E+3)	2E-6	-	7E-4	7E-3
20	Calcium-45	W, all compounds	2E+3	8E+2	4E-7	1E-9	2E-5	2E-4
20	Calcium-47	W, all compounds	8E+2	9E+2	4E-7	1E-9	1E-5	1E-4
21	Scandium-43	Y, all compounds	7E+3	2E+4	9E-6	3E-8	1E-4	1E-3
21	Scandium-44m	Y, all compounds	5E+2	7E+2	3E-7	1E-9	7E-6	7E-5
21	Scandium-44	Y, all compounds	4E+3	1E+4	5E-6	2E-8	5E-5	5E-4
21	Scandium-46	Y, all compounds	9E+2	2E+2	1E-7	3E-10	1E-5	1E-4
21	Scandium-47	Y, all compounds	2E+3 LLI wall (3E+3)	3E+3	1E-6	4E-9	-	-
21	Scandium-48	Y, all compounds	8E+2	1E+3	6E-7	2E-9	1E-5	1E-4
21	Scandium-49 ²	Y, all compounds	2E+4	5E+4	2E-5	8E-8	3E-4	3E-3
22	Titanium-44	D, all compounds except those given for W and Y	3E+2	1E+1	5E-9	2E-11	4E-6	4E-5
		W, oxides, hydroxides, carbides, halides, and nitrates	-	3E+1	1E-8	4E-11	-	-
		Y, SrTiO_3	-	6E+0	2E-9	8E-12	-	-

Atomic No.	Radionuclide	Class	Table I			Table II		Table III
			Occupational Values			Effluent Concentrations		Releases to Sewers
			Col. 1 Oral Ingestion ALI (μ Ci))	Col. 2 ALI (μ Ci))	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)	
22	Titanium-45	D, see ^{44}Ti W, see ^{44}Ti Y, see ^{44}Ti	9E+3	3E+4	1E-5	3E-8	1E-4	1E-3
23	Vanadium-47 ²	D, all compounds except those given for W	3E+4	8E+4	3E-5	1E-7	-	-
		W, oxides, hydroxides, carbides, and halides	St wall (3E+4)	-	-	-	4E-4	4E-3
23	Vanadium-48	D, see ^{47}V W, see ^{47}V	6E+2	1E+3	5E-7	2E-9	9E-6	9E-5
23	Vanadium-49	D, see ^{47}V	7E+4	3E+4	1E-5	-	-	-
		W, see ^{47}V	LLI wall (9E+4)	Bone surf (3E+4)	-	5E-8	1E-3	1E-2
24	Chromium-48	D, all compounds except those given for W and Y	6E+3	1E+4	5E-6	2E-8	8E-5	8E-4
		W, halides and nitrates	-	7E+3	3E-6	1E-8	-	-
		Y, oxides and hydroxides	-	7E+3	3E-6	1E-8	-	-
24	Chromium-49 ²	D, see ^{48}Cr	3E+4	8E+4	4E-5	1E-7	4E-4	4E-3
		W, see ^{48}Cr	-	1E+5	4E-5	1E-7	-	-
		Y, see ^{48}Cr	-	9E+4	4E-5	1E-7	-	-
24	Chromium-51	D, see ^{48}Cr	4E+4	5E+4	2E-5	6E-8	5E-4	5E-3
		W, see ^{48}Cr	-	2E+4	1E-5	3E-8	-	-
		Y, see ^{48}Cr	-	2E+4	8E-6	3E-8	-	-
25	Manganese-51 ²	D, all compounds except those given for W	2E+4	5E+4	2E-5	7E-8	3E-4	3E-3
		W, oxides, hydroxides, halides, and nitrates	-	6E+4	3E-5	8E-8	-	-
25	Manganese-52m ²	D, see ^{51}Mn	3E+4	9E+4	4E-5	1E-7	-	-
		W, see ^{51}Mn	St wall (4E+4)	-	-	-	5E-4	5E-3
25	Manganese-52	D, see ^{51}Mn	7E+2	1E+3	5E-7	2E-9	1E-5	1E-4
		W, see ^{51}Mn	-	9E+2	4E-7	1E-9	-	-
25	Manganese-53	D, see ^{51}Mn	5E+4	1E+4	5E-6	-	7E-4	7E-3
		W, see ^{51}Mn	-	(2E+4)	-	3E-8	-	-
25	Manganese-54	D, see ^{51}Mn	2E+3	9E+2	4E-7	1E-9	3E-5	3E-4
		W, see ^{51}Mn	-	8E+2	3E-7	1E-9	-	-
25	Manganese-56	D, see ^{51}Mn	5E+3	2E+4	6E-6	2E-8	7E-5	7E-4
		W, see ^{51}Mn	-	2E+4	9E-6	3E-8	-	-
26	Iron-52	D, all compounds except those given for W	9E+2	3E+3	1E-6	4E-9	1E-5	1E-4
		W, oxides, hydroxides, and halides	-	2E+3	1E-6	3E-9	-	-

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
26	Iron-55	D, see ^{52}Fe W, see ^{52}Fe	9E+3 -	2E+3 4E+3	8E-7 2E-6	3E-9 6E-9	1E-4 -	1E-3 -	
26	Iron-59	D, see ^{52}Fe W, see ^{52}Fe	8E+2 -	3E+2 5E+2	1E-7 2E-7	5E-10 7E-10	1E-5 -	1E-4 -	
26	Iron-60	D, see ^{52}Fe W, see ^{52}Fe	3E+1 -	6E+0 2E+1	3E-9 8E-9	9E-12 3E-11	4E-7 -	4E-6 -	
27	Cobalt-55	W, all compounds except those given for Y Y, oxides, hydroxides, halides, and nitrates	1E+3 -	3E+3 3E+3	1E-6 1E-6	4E-9 4E-9	2E-5 -	2E-4 -	
27	Cobalt-56	W, see ^{55}Co Y, see ^{55}Co	5E+2 4E+2	3E+2 2E+2	1E-7 8E-8	4E-10 3E-10	6E-6 -	6E-5 -	
27	Cobalt-57	W, see ^{55}Co Y, see ^{55}Co	8E+3 4E+3	3E+3 7E+2	1E-6 3E-7	4E-9 9E-10	6E-5 -	6E-4 -	
27	Cobalt-58m	W, see ^{55}Co Y, see ^{55}Co	6E+4 -	9E+4 6E+4	4E-5 3E-5	1E-7 9E-8	8E-4 -	8E-3 -	
27	Cobalt-58	W, see ^{55}Co Y, see ^{55}Co	2E+3 1E+3	1E+3 7E+2	5E-7 3E-7	2E-9 1E-9	2E-5 -	2E-4 -	
27	Cobalt-60m ²	W, see ^{55}Co	1E+6 (1E+6)	4E+6 -	2E-3 -	6E-6 -	- 2E-2	- 2E-1	
		Y, see ^{55}Co	-	3E+6	1E-3	4E-6	- -	- -	
27	Cobalt-60	W, see ^{55}Co Y, see ^{55}Co	5E+2 2E+2	2E+2 3E+1	7E-8 1E-8	2E-10 5E-11	3E-6 -	3E-5 -	
27	Cobalt-61 ²	W, see ^{55}Co Y, see ^{55}Co	2E+4 2E+4	6E+4 6E+4	3E-5 2E-5	9E-8 8E-8	3E-4 -	3E-3 -	
27	Cobalt-62m ²	W, see ^{55}Co	4E+4 (5E+4)	2E+5 -	7E-5 -	2E-7 -	- 7E-4	- 7E-3	
		Y, see ^{55}Co	-	2E+5	6E-5	2E-7	- -	- -	
28	Nickel-56	D, all compounds except those given for W W, oxides, hydroxides, and carbides Vapor	1E+3 - -	2E+3 1E+3 1E+3	8E-7 5E-7 5E-7	3E-9 2E-9 2E-9	2E-5 - -	2E-4 - -	
28	Nickel-57	D, see ^{56}Ni W, see ^{56}Ni Vapor	2E+3 - -	5E+3 3E+3 6E+3	2E-6 1E-6 3E-6	7E-9 4E-9 9E-9	2E-5 - -	2E-4 - -	
28	Nickel-59	D, see ^{56}Ni W, see ^{56}Ni Vapor	2E+4 - -	4E+3 7E+3 2E+3	2E-6 1E-8 8E-7	5E-9 -	3E-4 -	3E-3 -	
28	Nickel-63	D, see ^{56}Ni W, see ^{56}Ni Vapor	9E+3 - -	2E+3 3E+3 8E+2	7E-7 1E-6 3E-7	2E-9 4E-9 1E-9	1E-4 - -	1E-3 - -	

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			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
28	Nickel-65	D, see ^{56}Ni	8E+3	2E+4	1E-5	3E-8	1E-4	1E-3	
		W, see ^{56}Ni	-	3E+4	1E-5	4E-8	-	-	
		Vapor	-	2E+4	7E-6	2E-8	-	-	
28	Nickel-66	D, see ^{56}Ni	4E+2 LLI wall (5E+2)	2E+3	7E-7	2E-9	-	-	
		W, see ^{56}Ni	-	6E+2	3E-7	9E-10	6E-6	6E-5	
		Vapor	-	3E+3	1E-6	4E-9	-	-	
29	Copper-60 ²	D, all compounds except those given for W and Y	3E+4 St wall (3E+4)	9E+4	4E-5	1E-7	-	-	
		W, sulfides, halides, and nitrates	-	1E+5	5E-5	2E-7	-	-	
		Y, oxides and hydroxides	-	1E+5	4E-5	1E-7	-	-	
29	Copper-61	D, see ^{60}Cu	1E+4	3E+4	1E-5	4E-8	2E-4	2E-3	
		W, see ^{60}Cu	-	4E+4	2E-5	6E-8	-	-	
		Y, see ^{60}Cu	-	4E+4	1E-5	5E-8	-	-	
29	Copper-64	D, see ^{60}Cu	1E+4	3E+4	1E-5	4E-8	2E-4	2E-3	
		W, see ^{60}Cu	-	2E+4	1E-5	3E-8	-	-	
		Y, see ^{60}Cu	-	2E+4	9E-6	3E-8	-	-	
29	Copper-67	D, see ^{60}Cu	5E+3	8E+3	3E-6	1E-8	6E-5	6E-4	
		W, see ^{60}Cu	-	5E+3	2E-6	7E-9	-	-	
		Y, see ^{60}Cu	-	5E+3	2E-6	6E-9	-	-	
30	Zinc-62	Y, all compounds	1E+3	3E+3	1E-6	4E-9	2E-5	2E-4	
30	Zinc-63 ²	Y, all compounds	2E+4 St wall (3E+4)	7E+4	3E-5	9E-8	-	-	
30	Zinc-65	Y, all compounds	4E+2	3E+2	1E-7	4E-10	3E-4	3E-3	
30	Zinc-69m	Y, all compounds	4E+3	7E+3	3E-6	1E-8	6E-5	6E-4	
30	Zinc-69 ²	Y, all compounds	6E+4	1E+5	6E-5	2E-7	8E-4	8E-3	
30	Zinc-71m	Y, all compounds	6E+3	2E+4	7E-6	2E-8	8E-5	8E-4	
30	Zinc-72	Y, all compounds	1E+3	1E+3	5E-7	2E-9	1E-5	1E-4	
31	Gallium-65 ²	D, all compounds except those given for W	5E+4 St wall (6E+4)	2E+5	7E-5	2E-7	-	-	
		W, oxides, hydroxides, carbides, halides, and nitrates	-	2E+5	8E-5	3E-7	-	-	
							9E-4	9E-3	
31	Gallium-66	D, see ^{65}Ga	1E+3	4E+3	1E-6	5E-9	1E-5	1E-4	
		W, see ^{65}Ga	-	3E+3	1E-6	4E-9	-	-	
31	Gallium-67	D, see ^{65}Ga	7E+3	1E+4	6E-6	2E-8	1E-4	1E-3	
		W, see ^{65}Ga	-	1E+4	4E-6	1E-8	-	-	

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			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
31	Gallium-68 ²	D, see ⁶⁵ Ga W, see ⁶⁵ Ga	2E+4 -	4E+4 5E+4	2E-5 2E-5	6E-8 7E-8	2E-4 -	2E-3 -	
31	Gallium-70 ²	D, see ⁶⁵ Ga	5E+4 (7E+4)	2E+5 -	7E-5 -	2E-7 -	-	-	
		W, see ⁶⁵ Ga	-	2E+5	8E-5	3E-7	-	1E-3 -	1E-2 -
31	Gallium-72	D, see ⁶⁵ Ga W, see ⁶⁵ Ga	1E+3 -	4E+3 3E+3	1E-6 1E-6	5E-9 4E-9	2E-5 -	2E-4 -	
31	Gallium-73	D, see ⁶⁵ Ga W, see ⁶⁵ Ga	5E+3 -	2E+4 2E+4	6E-6 6E-6	2E-8 2E-8	7E-5 -	7E-4 -	
32	Germanium-66	D, all compounds except those given for W	2E+4	3E+4	1E-5	4E-8	3E-4	3E-3	
		W, oxides, sulfides, and halides	-	2E+4	8E-6	3E-8	-	-	
32	Germanium-67 ²	D, see ⁶⁶ Ge	3E+4 (4E+4)	9E+4 -	4E-5 1E+5	1E-7 4E-5	-	-	
		W, see ⁶⁶ Ge	-	1E+5	4E-5	1E-7	6E-4 -	6E-3 -	
32	Germanium-68	D, see ⁶⁶ Ge W, see ⁶⁶ Ge	5E+3 -	4E+3 1E+2	2E-6 4E-8	5E-9 1E-10	6E-5 -	6E-4 -	
32	Germanium-69	D, see ⁶⁶ Ge W, see ⁶⁶ Ge	1E+4 -	2E+4 8E+3	6E-6 3E-6	2E-8 1E-8	2E-4 -	2E-3 -	
32	Germanium-71	D, see ⁶⁶ Ge	5E+5	4E+5	2E-4	6E-7	7E-3	7E-2	
		W, see ⁶⁶ Ge	-	4E+4	2E-5	6E-8	-	-	
32	Germanium-75 ²	D, see ⁶⁶ Ge	4E+4 (7E+4)	8E+4	3E-5	1E-7	-	-	
		W, see ⁶⁶ Ge	-	8E+4	4E-5	1E-7	9E-4 -	9E-3 -	
32	Germanium-77	D, see ⁶⁶ Ge W, see ⁶⁶ Ge	9E+3 -	1E+4 6E+3	4E-6 2E-6	1E-8 8E-9	1E-4 -	1E-3 -	
32	Germanium-78 ²	D, see ⁶⁶ Ge	2E+4 (2E+4)	2E+4	9E-6	3E-8	-	-	
		W, see ⁶⁶ Ge	-	2E+4	9E-6	3E-8	3E-4 -	3E-3 -	
33	Arsenic-69 ²	W, all compounds	3E+4 (4E+4)	1E+5 -	5E-5 -	2E-7 -	-	-	
33	Arsenic-70 ²	W, all compounds	1E+4	5E+4	2E-5	7E-8	2E-4	2E-3	
33	Arsenic-71	W, all compounds	4E+3	5E+3	2E-6	6E-9	5E-5	5E-4	
33	Arsenic-72	W, all compounds	9E+2	1E+3	6E-7	2E-9	1E-5	1E-4	
33	Arsenic-73	W, all compounds	8E+3	2E+3	7E-7	2E-9	1E-4	1E-3	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
33	Arsenic-74	W, all compounds	1E+3	8E+2	3E-7	1E-9	2E-5	2E-4	
33	Arsenic-76	W, all compounds	1E+3	1E+3	6E-7	2E-9	1E-5	1E-4	
33	Arsenic-77	W, all compounds	4E+3 LLI wall (5E+3)	5E+3	2E-6	7E-9	-	-	
33	Arsenic-78 ²	W, all compounds	8E+3	2E+4	9E-6	3E-8	1E-4	1E-3	
34	Selenium-70 ²	D, all compounds except those given for W W, oxides, hydroxides, carbides, and elemental Se	2E+4	4E+4	2E-5	5E-8	1E-4	1E-3	
34	Selenium-73m ²	D, see ⁷⁰ Se W, see ⁷⁰ Se	6E+4 3E+4	2E+5 1E+5	6E-5 6E-5	2E-7 2E-7	4E-4 -	4E-3 -	
34	Selenium-73	D, see ⁷⁰ Se W, see ⁷⁰ Se	3E+3 -	1E+4 2E+4	5E-6 7E-6	2E-8 2E-8	4E-5 -	4E-4 -	
34	Selenium-75	D, see ⁷⁰ Se W, see ⁷⁰ Se	5E+2 -	7E+2 6E+2	3E-7 3E-7	1E-9 8E-10	7E-6 -	7E-5 -	
34	Selenium-79	D, see ⁷⁰ Se W, see ⁷⁰ Se	6E+2 -	8E+2 6E+2	3E-7 2E-7	1E-9 8E-10	8E-6 -	8E-5 -	
34	Selenium-81m ²	D, see ⁷⁰ Se W, see ⁷⁰ Se	4E+4 2E+4	7E+4 7E+4	3E-5 3E-5	9E-8 1E-7	3E-4 -	3E-3 -	
34	Selenium-81 ²	D, see ⁷⁰ Se	6E+4 -	2E+5 2E+5	9E-5 1E-4	3E-7 3E-7	- 1E-3	- 1E-2	
34	Selenium-83 ²	D, see ⁷⁰ Se W, see ⁷⁰ Se	4E+4 3E+4	1E+5 1E+5	5E-5 5E-5	2E-7 2E-7	4E-4 -	4E-3 -	
35	Bromine-74m ²	D, bromides of H, Li, Na, K, Rb, Cs, and Fr	1E+4 St wall (2E+4)	4E+4	2E-5	5E-8	-	-	
		W, bromides of lanthanides, Be, Mg, Ca, Sr, Ba, Ra, Al, Ga, In, Tl, Ge, Sn, Pb, As, Sb, Bi, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, Sc, Y, Ti, Zr, Hf, V, Nb, Ta, Mn, Tc, and Re	-	4E+4	2E-5	6E-8	-	-	
35	Bromine-74 ²	D, see ^{74m} Br	2E+4 St wall (4E+4)	7E+4	3E-5	1E-7	-	-	
		W, see ^{74m} Br	-	8E+4	4E-5	1E-7	5E-4	5E-3	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
35	Bromine-75 ²	D, see ^{74m} Br	3E+4 St wall (4E+4)	5E+4	2E-5	7E-8	-	-	
		W, see ^{74m} Br	-	5E+4	2E-5	7E-8	5E-4	5E-3	
35	Bromine-76	D, see ^{74m} Br	4E+3	5E+3	2E-6	7E-9	5E-5	5E-4	
		W, see ^{74m} Br	-	4E+3	2E-6	6E-9	-	-	
35	Bromine-77	D, see ^{74m} Br	2E+4	2E+4	1E-5	3E-8	2E-4	2E-3	
		W, see ^{74m} Br	-	2E+4	8E-6	3E-8	-	-	
35	Bromine-80m	D, see ^{74m} Br	2E+4	2E+4	7E-6	2E-8	3E-4	3E-3	
		W, see ^{74m} Br	-	1E+4	6E-6	2E-8	-	-	
35	Bromine-80 ²	D, see ^{74m} Br	5E+4 St wall (9E+4)	2E+5	8E-5	3E-7	-	-	
		W, see ^{74m} Br	-	2E+5	9E-5	3E-7	1E-3	1E-2	
35	Bromine-82	D, see ^{74m} Br	3E+3	4E+3	2E-6	6E-9	4E-5	4E-4	
		W, see ^{74m} Br	-	4E+3	2E-6	5E-9	-	-	
35	Bromine-83	D, see ^{74m} Br	5E+4 St wall (7E+4)	6E+4	3E-5	9E-8	-	-	
		W, see ^{74m} Br	-	6E+4	3E-5	9E-8	9E-4	9E-3	
35	Bromine-84 ²	D, see ^{74m} Br	2E+4 St wall (3E+4)	6E+4	2E-5	8E-8	-	-	
		W, see ^{74m} Br	-	6E+4	3E-5	9E-8	4E-4	4E-3	
36	Krypton-74 ²	Submersion ¹	-	-	3E-6	1E-8	-	-	
36	Krypton-76	Submersion ¹	-	-	9E-6	4E-8	-	-	
36	Krypton-77 ²	Submersion ¹	-	-	4E-6	2E-8	-	-	
36	Krypton-79	Submersion ¹	-	-	2E-5	7E-8	-	-	
36	Krypton-81	Submersion ¹	-	-	7E-4	3E-6	-	-	
36	Krypton-83m ²	Submersion ¹	-	-	1E-2	5E-5	-	-	
36	Krypton-85m	Submersion ¹	-	-	2E-5	1E-7	-	-	
36	Krypton-85	Submersion ¹	-	-	1E-4	7E-7	-	-	
36	Krypton-87 ²	Submersion ¹	-	-	5E-6	2E-8	-	-	
36	Krypton-88	Submersion ¹	-	-	2E-6	9E-9	-	-	
37	Rubidium-79 ²	D, all compounds	4E+4 St wall (6E+4)	1E+5	5E-5	2E-7	-	-	
			-	-	-	8E-4	8E-3		
37	Rubidium-81m ²	D, all compounds	2E+5 St wall (3E+5)	3E+5	1E-4	5E-7	-	-	
			-	-	-	4E-3	4E-2		

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
37	Rubidium-81	D, all compounds	4E+4	5E+4	2E-5	7E-8	5E-4	5E-3	
37	Rubidium-82m	D, all compounds	1E+4	2E+4	7E-6	2E-8	2E-4	2E-3	
37	Rubidium-83	D, all compounds	6E+2	1E+3	4E-7	1E-9	9E-6	9E-5	
37	Rubidium-84	D, all compounds	5E+2	8E+2	3E-7	1E-9	7E-6	7E-5	
37	Rubidium-86	D, all compounds	5E+2	8E+2	3E-7	1E-9	7E-6	7E-5	
37	Rubidium-87	D, all compounds	1E+3	2E+3	6E-7	2E-9	1E-5	1E-4	
37	Rubidium-88 ²	D, all compounds	2E+4 St wall (3E+4)	6E+4	3E-5	9E-8	-	-	
37	Rubidium-89 ²	D, all compounds	4E+4 St wall (6E+4)	1E+5	6E-5	2E-7	-	-	
38	Strontium-80 ²	D, all soluble compounds except SrTiO ₃ Y, all insoluble compounds and SrTiO ₃	4E+3	1E+4	5E-6	2E-8	6E-5	6E-4	
38	Strontium-81 ²	D, see ⁸⁰ Sr Y, see ⁸⁰ Sr	3E+4 2E+4	8E+4 8E+4	3E-5 3E-5	1E-7 1E-7	3E-4	3E-3	
38	Strontium-82	D, see ⁸⁰ Sr Y, see ⁸⁰ Sr	3E+2 LLI wall (2E+2) 2E+2	4E+2 9E+1	2E-7 4E-8	6E-10 1E-10	-	-	
38	Strontium-83	D, see ⁸⁰ Sr Y, see ⁸⁰ Sr	3E+3 2E+3	7E+3 4E+3	3E-6 1E-6	1E-8 5E-9	3E-5	3E-4	
38	Strontium-85m ²	D, see ⁸⁰ Sr Y, see ⁸⁰ Sr	2E+5 -	6E+5 8E+5	3E-4 4E-4	9E-7 1E-6	3E-3	3E-2	
38	Strontium-85	D, see ⁸⁰ Sr Y, see ⁸⁰ Sr	3E+3 -	3E+3 2E+3	1E-6 6E-7	4E-9 2E-9	4E-5	4E-4	
38	Strontium-87m	D, see ⁸⁰ Sr Y, see ⁸⁰ Sr	5E+4 4E+4	1E+5 2E+5	5E-5 6E-5	2E-7 2E-7	6E-4	6E-3	
38	Strontium-89	D, see ⁸⁰ Sr Y, see ⁸⁰ Sr	6E+2 LLI wall (6E+2) 5E+2	8E+2 1E+2	4E-7 6E-8	1E-9 2E-10	-	-	
38	Strontium-90	D, see ⁸⁰ Sr Y, see ⁸⁰ Sr	3E+1 Bone surf (4E+1) -	2E+1 Bone surf (2E+1) 4E+0	8E-9 -	-	3E-11 5E-7	5E-6	
38	Strontium-91	D, see ⁸⁰ Sr Y, see ⁸⁰ Sr	2E+3 -	6E+3 4E+3	2E-6 1E-6	8E-9 5E-9	2E-5	2E-4	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
38	Strontium-92	D, see ^{80}Sr Y, see ^{80}Sr	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4	
			-	7E+3	3E-6	9E-9	-	-	
39	Yttrium-86m ²	W, all compounds except those given for Y Y, oxides and hydroxides	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3	
			-	5E+4	2E-5	8E-8	-	-	
39	Yttrium-86	W, see ^{86m}Y Y, see ^{86m}Y	1E+3	3E+3	1E-6	5E-9	2E-5	2E-4	
			-	3E+3	1E-6	5E-9	-	-	
39	Yttrium-87	W, see ^{86m}Y Y, see ^{86m}Y	2E+3	3E+3	1E-6	5E-9	3E-5	3E-4	
			-	3E+3	1E-6	5E-9	-	-	
39	Yttrium-88	W, see ^{86m}Y Y, see ^{86m}Y	1E+3	3E+2	1E-7	3E-10	1E-5	1E-4	
			-	2E+2	1E-7	3E-10	-	-	
39	Yttrium-90m	W, see ^{86m}Y Y, see ^{86m}Y	8E+3	1E+4	5E-6	2E-8	1E-4	1E-3	
			-	1E+4	5E-6	2E-8	-	-	
39	Yttrium-90	W, see ^{86m}Y Y, see ^{86m}Y	4E+2 LLI wall (5E+2)	7E+2	3E-7	9E-10	-	-	
			-	-	-	-	7E-6	7E-5	
			-	6E+2	3E-7	9E-10	-	-	
39	Yttrium-91m ²	W, see ^{86m}Y Y, see ^{86m}Y	1E+5	2E+5	1E-4	3E-7	2E-3	2E-2	
			-	2E+5	7E-5	2E-7	-	-	
39	Yttrium-91	W, see ^{86m}Y Y, see ^{86m}Y	5E+2 LLI wall (6E+2)	2E+2	7E-8	2E-10	-	-	
			-	-	-	-	8E-6	8E-5	
			-	1E+2	5E-8	2E-10	-	-	
39	Yttrium-92	W, see ^{86m}Y Y, see ^{86m}Y	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4	
			-	8E+3	3E-6	1E-8	-	-	
39	Yttrium-93	W, see ^{86m}Y Y, see ^{86m}Y	1E+3	3E+3	1E-6	4E-9	2E-5	2E-4	
			-	2E+3	1E-6	3E-9	-	-	
39	Yttrium-94 ²	W, see ^{86m}Y Y, see ^{86m}Y	2E+4 St wall (3E+4)	8E+4	3E-5	1E-7	-	-	
			-	-	-	-	4E-4	4E-3	
			-	8E+4	3E-5	1E-7	-	-	
39	Yttrium-95 ²	W, see ^{86m}Y Y, see ^{86m}Y	4E+4 St wall (5E+4)	2E+5	6E-5	2E-7	-	-	
			-	1E+5	6E-5	2E-7	7E-4	7E-3	
40	Zirconium-86	D, all compounds except those given for W and Y W, oxides, hydroxides, halides, and nitrates Y, carbide	1E+3	4E+3	2E-6	6E-9	2E-5	2E-4	
			-	3E+3	1E-6	4E-9	-	-	
			-	2E+3	1E-6	3E-9	-	-	
40	Zirconium-88	D, see ^{86}Zr W, see ^{86}Zr Y, see ^{86}Zr	4E+3	2E+2	9E-8	3E-10	5E-5	5E-4	
			-	5E+2	2E-7	7E-10	-	-	
			-	3E+2	1E-7	4E-10	-	-	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration ($\mu\text{Ci}/\text{ml}$)
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2		
40	Zirconium-89	D, see ^{86}Zr	2E+3	4E+3	1E-6	5E-9	2E-5	2E-4	
		W, see ^{86}Zr	-	2E+3	1E-6	3E-9	-	-	
		Y, see ^{86}Zr	-	2E+3	1E-6	3E-9	-	-	
40	Zirconium-93	D, see ^{86}Zr	1E+3	6E+0	3E-9	-	-	-	
		Bone surf (3E+3)	Bone surf (2E+1)	-	2E-11	4E-5	4E-4		
		W, see ^{86}Zr	-	2E+1	1E-8	-	-	-	
		-	Bone surf (6E+1)	-	9E-11	-	-		
		Y, see ^{86}Zr	-	6E+1	2E-8	-	-	-	
40	Zirconium-95	D, see ^{86}Zr	1E+3	1E+2	5E-8	-	2E-5	2E-4	
			-	Bone surf (3E+2)	-	4E-10	-	-	
		W, see ^{86}Zr	-	4E+2	2E-7	5E-10	-	-	
		Y, see ^{86}Zr	-	3E+2	1E-7	4E-10	-	-	
40	Zirconium-97	D, see ^{86}Zr	6E+2	2E+3	8E-7	3E-9	9E-6	9E-5	
		W, see ^{86}Zr	-	1E+3	6E-7	2E-9	-	-	
		Y, see ^{86}Zr	-	1E+3	5E-7	2E-9	-	-	
41	Niobium-88 ²	W, all compounds except those given for Y	5E+4	2E+5	9E-5	3E-7	-	-	
		St wall (7E+4)	-	-	-	-	1E-3	1E-2	
		Y, oxides and hydroxides	-	2E+5	9E-5	3E-7	-	-	
41	Niobium-89 ² (66 min)	W, see ^{88}Nb	1E+4	4E+4	2E-5	6E-8	1E-4	1E-3	
		Y, see ^{88}Nb	-	4E+4	2E-5	5E-8	-	-	
41	Niobium-89 (122 min)	W, see ^{88}Nb	5E+3	2E+4	8E-6	3E-8	7E-5	7E-4	
		Y, see ^{88}Nb	-	2E+4	6E-6	2E-8	-	-	
41	Niobium-90	W, see ^{88}Nb	1E+3	3E+3	1E-6	4E-9	1E-5	1E-4	
		Y, see ^{88}Nb	-	2E+3	1E-6	3E-9	-	-	
41	Niobium-93m	W, see ^{88}Nb	9E+3	2E+3	8E-7	3E-9	-	-	
		Y, see ^{88}Nb	(1E+4)	-	-	-	2E-4	2E-3	
41	Niobium-94	W, see ^{88}Nb	9E+2	2E+2	8E-8	3E-10	1E-5	1E-4	
		Y, see ^{88}Nb	-	2E+1	6E-9	2E-11	-	-	
41	Niobium-95m	W, see ^{88}Nb	2E+3	3E+3	1E-6	4E-9	-	-	
		Y, see ^{88}Nb	(2E+3)	-	-	-	3E-5	3E-4	
41	Niobium-95	W, see ^{88}Nb	2E+3	1E+3	5E-7	2E-9	3E-5	3E-4	
		Y, see ^{88}Nb	-	1E+3	5E-7	2E-9	-	-	
41	Niobium-96	W, see ^{88}Nb	1E+3	3E+3	1E-6	4E-9	2E-5	2E-4	
		Y, see ^{88}Nb	-	2E+3	1E-6	3E-9	-	-	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
41	Niobium-97 ²	W, see ⁸⁸ Nb Y, see ⁸⁸ Nb	2E+4 -	8E+4 7E+4	3E-5 3E-5	1E-7 1E-7	3E-4 -	3E-3 -	
41	Niobium-98 ²	W, see ⁸⁸ Nb Y, see ⁸⁸ Nb	1E+4 -	5E+4 5E+4	2E-5 2E-5	8E-8 7E-8	2E-4 -	2E-3 -	
42	Molybdenum-90	D, all compounds except those given for Y Y, oxides, hydroxides, and MoS	4E+3 2E+3	7E+3 5E+3	3E-6 2E-6	1E-8 6E-9	3E-5 -	3E-4 -	
42	Molybdenum-93m	D, see ⁹⁰ Mo Y, see ⁹⁰ Mo	9E+3 4E+3	2E+4 1E+4	7E-6 6E-6	2E-8 2E-8	6E-5 -	6E-4 -	
42	Molybdenum-93	D, see ⁹⁰ Mo Y, see ⁹⁰ Mo	4E+3 2E+4	5E+3 2E+2	2E-6 8E-8	8E-9 2E-10	5E-5 -	5E-4 -	
42	Molybdenum-99	D, see ⁹⁰ Mo Y, see ⁹⁰ Mo	2E+3 (1E+3) 1E+3	3E+3 1E+3	1E-6 6E-7	4E-9 2E-9	- 2E-5	- 2E-4	
42	Molybdenum-101 ²	D, see ⁹⁰ Mo Y, see ⁹⁰ Mo	4E+4 (5E+4) -	1E+5 1E+5	6E-5 6E-5	2E-7 2E-7	- 7E-4	- 7E-3	
43	Technetium-93m ²	D, all compounds except those given for W W, oxides, hydroxides, halides, and nitrates	7E+4 -	2E+5 3E+5	6E-5 1E-4	2E-7 4E-7	1E-3 -	1E-2 -	
43	Technetium-93	D, see ^{93m} Tc W, see ^{93m} Tc	3E+4 -	7E+4 1E+5	3E-5 4E-5	1E-7 1E-7	4E-4 -	4E-3 -	
43	Technetium-94m ²	D, see ^{93m} Tc W, see ^{93m} Tc	2E+4 -	4E+4 6E+4	2E-5 2E-5	6E-8 8E-8	3E-4 -	3E-3 -	
43	Technetium-94	D, see ^{93m} Tc W, see ^{93m} Tc	9E+3 -	2E+4 2E+4	8E-6 1E-5	3E-8 3E-8	1E-4 -	1E-3 -	
43	Technetium-95m	D, see ^{93m} Tc W, see ^{93m} Tc	4E+3 -	5E+3 2E+3	2E-6 8E-7	8E-9 3E-9	5E-5 -	5E-4 -	
43	Technetium-95	D, see ^{93m} Tc W, see ^{93m} Tc	1E+4 -	2E+4 2E+4	9E-6 8E-6	3E-8 3E-8	1E-4 -	1E-3 -	
43	Technetium-96m ²	D, see ^{93m} Tc W, see ^{93m} Tc	2E+5 -	3E+5 2E+5	1E-4 1E-4	4E-7 3E-7	2E-3 -	2E-2 -	
43	Technetium-96	D, see ^{93m} Tc W, see ^{93m} Tc	2E+3 -	3E+3 2E+3	1E-6 9E-7	5E-9 3E-9	3E-5 -	3E-4 -	
43	Technetium-97m	D, see ^{93m} Tc W, see ^{93m} Tc	5E+3 -	7E+3 (7E+3) 1E+3	3E-6 -	- 1E-8	6E-5 -	6E-4 -	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2	Monthly Average Concentration (μ Ci/ml)	
			Inhalation			Air (μ Ci/ml)	Water (μ Ci/ml)		
43	Technetium-97	D, see 93m Tc W, see 93m Tc	4E+4 -	5E+4 6E+3	2E-5 2E-6	7E-8 8E-9	5E-4 -	5E-3 -	
43	Technetium-98	D, see 93m Tc W, see 93m Tc	1E+3 -	2E+3 3E+2	7E-7 1E-7	2E-9 4E-10	1E-5 -	1E-4 -	
43	Technetium-99m	D, see 93m Tc W, see 93m Tc	8E+4 -	2E+5 2E+5	6E-5 1E-4	2E-7 3E-7	1E-3 -	1E-2 -	
43	Technetium-99	D, see 93m Tc W, see 93m Tc	4E+3 -	5E+3 (6E+3) 7E+2	2E-6 -	- 8E-9 9E-10	6E-5 -	6E-4 -	
43	Technetium-101 ²	D, see 93m Tc W, see 93m Tc	9E+4 (1E+5) -	3E+5 - 4E+5	1E-4 - 2E-4	5E-7 -	2E-3 -	2E-2 -	
43	Technetium-104 ²	D, see 93m Tc W, see 93m Tc	2E+4 (3E+4) -	7E+4 - 9E+4	3E-5 - 4E-5	1E-7 -	4E-4 -	4E-3 -	
44	Ruthenium-94 ²	D, all compounds except those given for W and Y W, halides Y, oxides and hydroxides	2E+4 - -	4E+4 6E+4 6E+4	2E-5 3E-5 2E-5	6E-8 9E-8 8E-8	2E-4 -	2E-3 -	
44	Ruthenium-97	D, see 94 Ru W, see 94 Ru Y, see 94 Ru	8E+3 - -	2E+4 1E+4 1E+4	8E-6 5E-6 5E-6	3E-8 2E-8 2E-8	1E-4 -	1E-3 -	
44	Ruthenium-103	D, see 94 Ru W, see 94 Ru Y, see 94 Ru	2E+3 - -	2E+3 1E+3 6E+2	7E-7 4E-7 3E-7	2E-9 1E-9 9E-10	3E-5 -	3E-4 -	
44	Ruthenium-105	D, see 94 Ru W, see 94 Ru Y, see 94 Ru	5E+3 - -	1E+4 1E+4 1E+4	6E-6 6E-6 5E-6	2E-8 2E-8 2E-8	7E-5 -	7E-4 -	
44	Ruthenium-106	D, see 94 Ru W, see 94 Ru Y, see 94 Ru	2E+2 (2E+2) -	9E+1 - 5E+1	4E-8 - 2E-8	1E-10 -	3E-6 -	3E-5 -	
45	Rhodium-99m	D, all compounds except those given for W and Y W, halides Y, oxides and hydroxides	2E+4 - -	6E+4 8E+4 7E+4	2E-5 3E-5 3E-5	8E-8 1E-7 9E-8	2E-4 -	2E-3 -	
45	Rhodium-99	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	2E+3 - -	3E+3 2E+3 2E+3	1E-6 9E-7 8E-7	4E-9 3E-9 3E-9	3E-5 -	3E-4 -	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
45	Rhodium-100	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	2E+3	5E+3	2E-6	7E-9	2E-5	2E-4	
45	Rhodium-101m	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	6E+3	1E+4	5E-6	2E-8	8E-5	8E-4	
45	Rhodium-101	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	2E+3	5E+2	2E-7	7E-10	3E-5	3E-4	
45	Rhodium-102m	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	1E+3 (1E+3)	5E+2	2E-7	7E-10	-	-	
45	Rhodium-102	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	6E+2	9E+1	4E-8	1E-10	8E-6	8E-5	
45	Rhodium-103m ²	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	4E+5	1E+6	5E-4	2E-6	6E-3	6E-2	
45	Rhodium-105	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	4E+3 (4E+3)	1E+4	5E-6	2E-8	-	-	
45	Rhodium-106m	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	8E+3	3E+4	1E-5	4E-8	1E-4	1E-3	
45	Rhodium-107 ²	D, see 99m Rh W, see 99m Rh Y, see 99m Rh	7E+4 (9E+4)	2E+5	1E-4	3E-7	-	-	
46	Palladium-100	D, all compounds except those given for W and Y W, nitrates Y, oxides and hydroxides	1E+3	1E+3	6E-7	2E-9	2E-5	2E-4	
46	Palladium-101	D, see 100 Pd W, see 100 Pd Y, see 100 Pd	1E+4	3E+4	1E-5	5E-8	2E-4	2E-3	
46	Palladium-103	D, see 100 Pd W, see 100 Pd Y, see 100 Pd	6E+3 (7E+3)	6E+3	3E-6	9E-9	-	-	
			-	-	-	-	1E-4	1E-3	
			-	4E+3	2E-6	6E-9	-	-	
			-	4E+3	1E-6	5E-9	-	-	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III
			Occupational Values			Effluent Concentrations		Releases to Sewers
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Monthly Average Concentration (μ Ci/ml)
46	Palladium-107	D, see ^{100}Pd	3E+4 LLI wall (4E+4)	2E+4 Kidneys (2E+4)	9E-6	-	-	-
		W, see ^{100}Pd	-	7E+3	3E-6	5E-4	5E-3	-
		Y, see ^{100}Pd	-	4E+2	2E-7	6E-10	-	-
46	Palladium-109	D, see ^{100}Pd	2E+3	6E+3	3E-6	9E-9	3E-5	3E-4
		W, see ^{100}Pd	-	5E+3	2E-6	8E-9	-	-
		Y, see ^{100}Pd	-	5E+3	2E-6	6E-9	-	-
47	Silver-102 ²	D, all compounds except those given for W and Y	5E+4 St wall (6E+4)	2E+5	8E-5	2E-7	-	-
		W, nitrates and sulfides	-	2E+5	9E-5	3E-7	-	-
		Y, oxides and hydroxides	-	2E+5	8E-5	3E-7	-	-
47	Silver-103 ²	D, see ^{102}Ag	4E+4	1E+5	4E-5	1E-7	5E-4	5E-3
		W, see ^{102}Ag	-	1E+5	5E-5	2E-7	-	-
		Y, see ^{102}Ag	-	1E+5	5E-5	2E-7	-	-
47	Silver-104m ²	D, see ^{102}Ag	3E+4	9E+4	4E-5	1E-7	4E-4	4E-3
		W, see ^{102}Ag	-	1E+5	5E-5	2E-7	-	-
		Y, see ^{102}Ag	-	1E+5	5E-5	2E-7	-	-
47	Silver-104 ²	D, see ^{102}Ag	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3
		W, see ^{102}Ag	-	1E+5	6E-5	2E-7	-	-
		Y, see ^{102}Ag	-	1E+5	6E-5	2E-7	-	-
47	Silver-105	D, see ^{102}Ag	3E+3	1E+3	4E-7	1E-9	4E-5	4E-4
		W, see ^{102}Ag	-	2E+3	7E-7	2E-9	-	-
		Y, see ^{102}Ag	-	2E+3	7E-7	2E-9	-	-
47	Silver-106m	D, see ^{102}Ag	8E+2	7E+2	3E-7	1E-9	1E-5	1E-4
		W, see ^{102}Ag	-	9E+2	4E-7	1E-9	-	-
		Y, see ^{102}Ag	-	9E+2	4E-7	1E-9	-	-
47	Silver-106 ²	D, see ^{102}Ag	6E+4 St. wall (6E+4)	2E+5	8E-5	3E-7	-	-
		W, see ^{102}Ag	-	2E+5	9E-5	3E-7	9E-4	9E-3
		Y, see ^{102}Ag	-	2E+5	8E-5	3E-7	-	-
47	Silver-108m	D, see ^{102}Ag	6E+2	2E+2	8E-8	3E-10	9E-6	9E-5
		W, see ^{102}Ag	-	3E+2	1E-7	4E-10	-	-
		Y, see ^{102}Ag	-	2E+1	1E-8	3E-11	-	-
47	Silver-110m	D, see ^{102}Ag	5E+2	1E+2	5E-8	2E-10	6E-6	6E-5
		W, see ^{102}Ag	-	2E+2	8E-8	3E-10	-	-
		Y, see ^{102}Ag	-	9E+1	4E-8	1E-10	-	-
47	Silver-111	D, see ^{102}Ag	9E+2 LLI wall (1E+3)	2E+3 (2E+3)	6E-7	-	-	-
		W, see ^{102}Ag	-	9E+2	4E-7	2E-9	2E-5	2E-4
		Y, see ^{102}Ag	-	9E+2	4E-7	1E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration ($\mu\text{Ci}/\text{ml}$)
			ALI (μCi)	ALI (μCi)	DAC ($\mu\text{Ci}/\text{ml}$)	Air ($\mu\text{Ci}/\text{ml}$)	Water ($\mu\text{Ci}/\text{ml}$)	
47	Silver-112	D, see ^{102}Ag	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
		W, see ^{102}Ag	-	1E+4	4E-6	1E-8	-	-
		Y, see ^{102}Ag	-	9E+3	4E-6	1E-8	-	-
47	Silver-115 ²	D, see ^{102}Ag	3E+4 (3E+4)	9E+4	4E-5	1E-7	-	-
		W, see ^{102}Ag	-	9E+4	4E-5	1E-7	-	-
		Y, see ^{102}Ag	-	8E+4	3E-5	1E-7	-	-
48	Cadmium-104 ²	D, all compounds except those given for W and Y	2E+4	7E+4	3E-5	9E-8	3E-4	3E-3
		W, sulfides, halides, and nitrates	-	1E+5	5E-5	2E-7	-	-
		Y, oxides and hydroxides	-	1E+5	5E-5	2E-7	-	-
48	Cadmium-107	D, see ^{104}Cd	2E+4	5E+4	2E-5	8E-8	3E-4	3E-3
		W, see ^{104}Cd	-	6E+4	2E-5	8E-8	-	-
		Y, see ^{104}Cd	-	5E+4	2E-5	7E-8	-	-
48	Cadmium-109	D, see ^{104}Cd	3E+2 Kidneys (4E+2)	4E+1 Kidneys (5E+1)	1E-8 Kidneys (5E+1)	-	-	-
		W, see ^{104}Cd	-	1E+2 Kidneys (1E+2)	5E-8 Kidneys (1E+2)	7E-11	6E-6	6E-5
		Y, see ^{104}Cd	-	1E+2 Kidneys (1E+2)	5E-8 Kidneys (1E+2)	2E-10 Kidneys (2E-10)	-	-
48	Cadmium-113m	D, see ^{104}Cd	2E+1 Kidneys (4E+1)	2E+0 Kidneys (4E+0)	1E-9 Kidneys (4E+0)	-	-	-
		W, see ^{104}Cd	-	8E+0 Kidneys (1E+1)	4E-9 Kidneys (1E+1)	5E-12 Kidneys (2E-11)	5E-7 Kidneys (2E-11)	5E-6
		Y, see ^{104}Cd	-	1E+1 Kidneys (1E+1)	5E-9 Kidneys (1E+1)	2E-11 Kidneys (2E-11)	-	-
48	Cadmium-113	D, see ^{104}Cd	2E+1 Kidneys (3E+1)	2E+0 Kidneys (3E+0)	9E-10 Kidneys (3E+0)	-	-	-
		W, see ^{104}Cd	-	8E+0 Kidneys (1E+1)	3E-9 Kidneys (1E+1)	5E-12 Kidneys (2E-11)	4E-7 Kidneys (2E-11)	4E-6
		Y, see ^{104}Cd	-	1E+1 Kidneys (1E+1)	6E-9 Kidneys (1E+1)	2E-11 Kidneys (2E-11)	-	-
48	Cadmium-115m	D, see ^{104}Cd	3E+2	5E+1 Kidneys (8E+1)	2E-8 Kidneys (8E+1)	-	4E-6	4E-5
		W, see ^{104}Cd	-	1E+2	5E-8	1E-10 2E-10	-	-
		Y, see ^{104}Cd	-	1E+2	6E-8	2E-10 2E-10	-	-
48	Cadmium-115	D, see ^{104}Cd	9E+2 LLI wall (1E+3)	1E+3	6E-7	2E-9	-	-
		W, see ^{104}Cd	-	1E+3	5E-7	2E-9	1E-5	1E-4
		Y, see ^{104}Cd	-	1E+3	6E-7	2E-9	-	-
48	Cadmium-117m	D, see ^{104}Cd	5E+3	1E+4	5E-6	2E-8	6E-5	6E-4
		W, see ^{104}Cd	-	2E+4	7E-6	2E-8	-	-
		Y, see ^{104}Cd	-	1E+4	6E-6	2E-8	-	-

Atomic No.	Radionuclide	Class	Table I			Table II		Table III
			Occupational Values			Effluent Concentrations		Releases to Sewers
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)	Monthly Average Concentration (μ Ci/ml)
48	Cadmium-117	D, see ^{104}Cd	5E+3	1E+4	5E-6	2E-8	6E-5	6E-4
		W, see ^{104}Cd	-	2E+4	7E-6	2E-8	-	-
		Y, see ^{104}Cd	-	1E+4	6E-6	2E-8	-	-
49	Indium-109	D, all compounds except those given for W	2E+4	4E+4	2E-5	6E-8	3E-4	3E-3
		W, oxides, hydroxides, halides, and nitrates	-	6E+4	3E-5	9E-8	-	-
49	Indium-110 ² (69.1 min)	D, see ^{109}In	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see ^{109}In	-	6E+4	2E-5	8E-8	-	-
49	Indium-110 (4.9 h)	D, see ^{109}In	5E+3	2E+4	7E-6	2E-8	7E-5	7E-4
		W, see ^{109}In	-	2E+4	8E-6	3E-8	-	-
49	Indium-111	D, see ^{109}In	4E+3	6E+3	3E-6	9E-9	6E-5	6E-4
		W, see ^{109}In	-	6E+3	3E-6	9E-9	-	-
49	Indium-112 ²	D, see ^{109}In	2E+5	6E+5	3E-4	9E-7	2E-3	2E-2
		W, see ^{109}In	-	7E+5	3E-4	1E-6	-	-
49	Indium-113m ²	D, see ^{109}In	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3
		W, see ^{109}In	-	2E+5	8E-5	3E-7	-	-
49	Indium-114m	D, see ^{109}In	3E+2	6E+1	3E-8	9E-11	-	-
		W, see ^{109}In	LLI wall (4E+2)	-	-	-	5E-6	5E-5
			-	1E+2	4E-8	1E-10	-	-
49	Indium-115m	D, see ^{109}In	1E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see ^{109}In	-	5E+4	2E-5	7E-8	-	-
49	Indium-115	D, see ^{109}In	4E+1	1E+0	6E-10	2E-12	5E-7	5E-6
		W, see ^{109}In	-	5E+0	2E-9	8E-12	-	-
49	Indium-116m ²	D, see ^{109}In	2E+4	8E+4	3E-5	1E-7	3E-4	3E-3
		W, see ^{109}In	-	1E+5	5E-5	2E-7	-	-
49	Indium-117m ²	D, see ^{109}In		1E+4	3E+4	1E-5	5E-8	2E-4
		W, see ^{109}In	-		4E+4	2E-5	6E-8	-
49	Indium-117 ²	D, see ^{109}In	6E+4	2E+5	7E-5	2E-7	8E-4	8E-3
		W, see ^{109}In	-	2E+5	9E-5	3E-7	-	-
49	Indium-119m ²	D, see ^{109}In	4E+4	1E+5	5E-5	2E-7	-	-
		W, see ^{109}In	St wall (5E+4)	-	-	-	7E-4	7E-3
			-	1E+5	6E-5	2E-7	-	-
50	Tin-110	D, all compounds except those given for W	4E+3	1E+4	5E-6	2E-8	5E-5	5E-4
		W, sulfides, oxides, hydroxides, halides, nitrates, and stannic phosphate	-	1E+4	5E-6	2E-8	-	-
50	Tin-111 ²	D, see ^{110}Sn	7E+4	2E+5	9E-5	3E-7	1E-3	1E-2
		W, see ^{110}Sn	-	3E+5	1E-4	4E-7	-	-

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
50	Tin-113	D, see ^{110}Sn	2E+3 LLI wall (2E+3)	1E+3	5E-7	2E-9	-	-	-
		W, see ^{110}Sn	-	5E+2	2E-7	8E-10	3E-5	3E-4	-
50	Tin-117m	D, see ^{110}Sn	2E+3 LLI wall (2E+3)	1E+3 Bone surf (2E+3)	5E-7	-	-	-	-
		W, see ^{110}Sn	-	1E+3	6E-7	2E-9	3E-5	3E-4	-
50	Tin-119m	D, see ^{110}Sn	3E+3 LLI wall (4E+3)	2E+3	1E-6	3E-9	-	-	-
		W, see ^{110}Sn	-	1E+3	4E-7	1E-9	6E-5	6E-4	-
50	Tin-121m	D, see ^{110}Sn	3E+3 LLI wall (4E+3)	9E+2	4E-7	1E-9	-	-	-
		W, see ^{110}Sn	-	5E+2	2E-7	8E-10	5E-5	5E-4	-
50	Tin-121	D, see ^{110}Sn	6E+3 LLI wall (6E+3)	2E+4	6E-6	2E-8	-	-	-
		W, see ^{110}Sn	-	1E+4	5E-6	2E-8	8E-5	8E-4	-
50	Tin-123m ²	D, see ^{110}Sn	5E+4	1E+5	5E-5	2E-7	7E-4	7E-3	-
		W, see ^{110}Sn	-	1E+5	6E-5	2E-7	-	-	-
50	Tin-123	D, see ^{110}Sn	5E+2 LLI wall (6E+2)	6E+2	3E-7	9E-10	-	-	-
		W, see ^{110}Sn	-	2E+2	7E-8	2E-10	9E-6	9E-5	-
50	Tin-125	D, see ^{110}Sn	4E+2 LLI wall (5E+2)	9E+2	4E-7	1E-9	-	-	-
		W, see ^{110}Sn	-	4E+2	1E-7	5E-10	6E-6	6E-5	-
50	Tin-126	D, see ^{110}Sn	3E+2	6E+1	2E-8	8E-11	4E-6	4E-5	-
		W, see ^{110}Sn	-	7E+1	3E-8	9E-11	-	-	-
50	Tin-127	D, see ^{110}Sn	7E+3	2E+4	8E-6	3E-8	9E-5	9E-4	-
		W, see ^{110}Sn	-	2E+4	8E-6	3E-8	-	-	-
50	Tin-128 ²	D, see ^{110}Sn	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3	-
		W, see ^{110}Sn	-	4E+4	1E-5	5E-8	-	-	-
51	Antimony-115 ²	D, all compounds except those given for W W, oxides, hydroxides, halides, sulfides, sulfates, and nitrates	8E+4	2E+5	1E-4	3E-7	1E-3	1E-2	-
51	Antimony-116m ²	D, see ^{115}Sb W, see ^{115}Sb	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3	-

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
51	Antimony-116 ²	D, see ¹¹⁵ Sb	7E+4 St wall (9E+4)	3E+5	1E-4	4E-7	-	-	-
		W, see ¹¹⁵ Sb	-	3E+5	1E-4	5E-7	-	1E-3	1E-2
51	Antimony-117	D, see ¹¹⁵ Sb	7E+4	2E+5	9E-5	3E-7	9E-4	9E-3	-
		W, see ¹¹⁵ Sb	-	3E+5	1E-4	4E-7	-	-	-
51	Antimony-118m	D, see ¹¹⁵ Sb	6E+3	2E+4	8E-6	3E-8	7E-5	7E-4	-
		W, see ¹¹⁵ Sb	5E+3	2E+4	9E-6	3E-8	-	-	-
51	Antimony-119	D, see ¹¹⁵ Sb	2E+4	5E+4	2E-5	6E-8	2E-4	2E-3	-
		W, see ¹¹⁵ Sb	2E+4	3E+4	1E-5	4E-8	-	-	-
51	Antimony-120 ² (16 min)	D, see ¹¹⁵ Sb	1E+5 St wall (2E+5)	4E+5	2E-4	6E-7	-	-	-
		W, see ¹¹⁵ Sb	-	5E+5	2E-4	7E-7	-	2E-3	2E-2
51	Antimony-120 (5.76 d)	D, see ¹¹⁵ Sb	1E+3	2E+3	9E-7	3E-9	1E-5	1E-4	-
		W, see ¹¹⁵ Sb	9E+2	1E+3	5E-7	2E-9	-	-	-
51	Antimony-122	D, see ¹¹⁵ Sb	8E+2 LLI wall (8E+2)	2E+3	1E-6	3E-9	-	-	-
		W, see ¹¹⁵ Sb	7E+2	1E+3	4E-7	2E-9	-	1E-5	1E-4
51	Antimony-124m ²	D, see ¹¹⁵ Sb	3E+5	8E+5	4E-4	1E-6	3E-3	3E-2	-
		W, see ¹¹⁵ Sb	2E+5	6E+5	2E-4	8E-7	-	-	-
51	Antimony-124	D, see ¹¹⁵ Sb	6E+2	9E+2	4E-7	1E-9	7E-6	7E-5	-
		W, see ¹¹⁵ Sb	5E+2	2E+2	1E-7	3E-10	-	-	-
51	Antimony-125	D, see ¹¹⁵ Sb	2E+3	2E+3	1E-6	3E-9	3E-5	3E-4	-
		W, see ¹¹⁵ Sb	-	5E+2	2E-7	7E-10	-	-	-
51	Antimony-126m ²	D, see ¹¹⁵ Sb	5E+4 St wall (7E+4)	2E+5	8E-5	3E-7	-	-	-
		W, see ¹¹⁵ Sb	-	2E+5	8E-5	3E-7	-	9E-4	9E-3
51	Antimony-126	D, see ¹¹⁵ Sb	6E+2	1E+3	5E-7	2E-9	7E-6	7E-5	-
		W, see ¹¹⁵ Sb	5E+2	5E+2	2E-7	7E-10	-	-	-
51	Antimony-127	D, see ¹¹⁵ Sb	8E+2 LLI wall (8E+2)	2E+3	9E-7	3E-9	-	-	-
		W, see ¹¹⁵ Sb	7E+2	9E+2	4E-7	1E-9	-	1E-5	1E-4
51	Antimony-128 ² (10.4 min)	D, see ¹¹⁵ Sb	8E+4 St wall (1E+5)	4E+5	2E-4	5E-7	-	-	-
		W, see ¹¹⁵ Sb	-	4E+5	2E-4	6E-7	-	1E-3	1E-2
51	Antimony-128 (9.01 h)	D, see ¹¹⁵ Sb	1E+3	4E+3	2E-6	6E-9	2E-5	2E-4	-
		W, see ¹¹⁵ Sb	-	3E+3	1E-6	5E-9	-	-	-

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
51	Antimony-129	D, see ^{115}Sb W, see ^{115}Sb	3E+3 -	9E+3 9E+3	4E-6 4E-6	1E-8 1E-8	4E-5 -	4E-4 -	
51	Antimony-130 ²	D, see ^{115}Sb W, see ^{115}Sb	2E+4 -	6E+4 8E+4	3E-5 3E-5	9E-8 1E-7	3E-4 -	3E-3 -	
51	Antimony-131 ²	D, see ^{115}Sb W, see ^{115}Sb	1E+4 Thyroid (2E+4) - Thyroid	2E+4 Thyroid (4E+4) 2E+4 (4E+4)	1E-5 - 1E-5	- 6E-8 -	2E-4 -	2E-3 -	
52	Tellurium-116	D, all compounds except those given for W W, oxides, hydroxides, and nitrates	8E+3 -	2E+4 3E+4	9E-6 1E-5	3E-8 4E-8	1E-4 -	1E-3 -	
52	Tellurium-121m	D, see ^{116}Te W, see ^{116}Te	5E+2 -	2E+2 Bone surf (7E+2) 4E+2	8E-8 Bone surf (4E+2) 2E-7	- -	5E-10 6E-10	1E-5 -	1E-4 -
52	Tellurium-121	D, see ^{116}Te W, see ^{116}Te	3E+3 -	4E+3 3E+3	2E-6 1E-6	6E-9 4E-9	4E-5 -	4E-4 -	
52	Tellurium-123m	D, see ^{116}Te W, see ^{116}Te	6E+2 -	2E+2 Bone surf (1E+3) 5E+2	9E-8 Bone surf (5E+2) 2E-7	- -	8E-10 8E-10	1E-5 -	1E-4 -
52	Tellurium-123	D, see ^{116}Te W, see ^{116}Te	5E+2 -	2E+2 Bone surf (1E+3) 4E+2 -	8E-8 Bone surf (5E+2) 2E-7 Bone surf (1E+3)	- -	7E-10 -	2E-5 -	2E-4 -
52	Tellurium-125m	D, see ^{116}Te W, see ^{116}Te	1E+3 -	4E+2 Bone surf (1E+3) 7E+2	2E-7 Bone surf (1E+3) 3E-7	- -	1E-9 1E-9	2E-5 -	2E-4 -
52	Tellurium-127m	D, see ^{116}Te W, see ^{116}Te	6E+2 -	3E+2 Bone surf (4E+2) 3E+2	1E-7 Bone surf (4E+2) 1E-7	- -	9E-6 6E-10 4E-10	9E-5 -	
52	Tellurium-127	D, see ^{116}Te W, see ^{116}Te	7E+3 -	2E+4 2E+4	9E-6 7E-6	3E-8 2E-8	1E-4 -	1E-3 -	
52	Tellurium-129m	D, see ^{116}Te W, see ^{116}Te	5E+2 -	6E+2 2E+2	3E-7 1E-7	9E-10 3E-10	7E-6 -	7E-5 -	
52	Tellurium-129 ²	D, see ^{116}Te W, see ^{116}Te	3E+4 -	6E+4 7E+4	3E-5 3E-5	9E-8 1E-7	4E-4 -	4E-3 -	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
52	Tellurium-131m	D, see ^{116}Te	3E+2 Thyroid (6E+2)	4E+2 Thyroid (1E+3)	2E-7	-	-	-	-
		W, see ^{116}Te	-	4E+2 Thyroid (9E+2)	2E-7	2E-9	8E-6	8E-5	-
			-	-	-	1E-9	-	-	-
52	Tellurium-131 ²	D, see ^{116}Te	3E+3 Thyroid (6E+3)	5E+3 Thyroid (1E+4)	2E-6	-	-	-	-
		W, see ^{116}Te	-	5E+3 Thyroid (1E+4)	2E-6	2E-8	8E-5	8E-4	-
			-	-	-	2E-8	-	-	-
52	Tellurium-132	D, see ^{116}Te	2E+2 Thyroid (7E+2)	2E+2 Thyroid (8E+2)	9E-8	-	-	-	-
		W, see ^{116}Te	-	2E+2 Thyroid (6E+2)	9E-8	1E-9	9E-6	9E-5	-
			-	-	-	9E-10	-	-	-
52	Tellurium-133m ²	D, see ^{116}Te	3E+3 Thyroid (6E+3)	5E+3 Thyroid (1E+4)	2E-6	-	-	-	-
		W, see ^{116}Te	-	5E+3 Thyroid (1E+4)	2E-6	2E-8	9E-5	9E-4	-
			-	-	-	2E-8	-	-	-
52	Tellurium-133 ²	D, see ^{116}Te	1E+4 Thyroid (3E+4)	2E+4 Thyroid (6E+4)	9E-6	-	-	-	-
		W, see ^{116}Te	-	2E+4 Thyroid (6E+4)	9E-6	8E-8	4E-4	4E-3	-
			-	-	-	8E-8	-	-	-
52	Tellurium-134 ²	D, see ^{116}Te	2E+4 Thyroid (2E+4)	2E+4 Thyroid (5E+4)	1E-5	-	-	-	-
		W, see ^{116}Te	-	2E+4 Thyroid (5E+4)	1E-5	7E-8	3E-4	3E-3	-
			-	-	-	7E-8	-	-	-
53	Iodine-120m ²	D, all compounds	1E+4 Thyroid (1E+4)	2E+4	9E-6	3E-8	-	-	-
			-	-	-	-	2E-4	2E-3	
53	Iodine-120 ²	D, all compounds	4E+3 Thyroid (8E+3)	9E+3 Thyroid (1E+4)	4E-6	-	-	-	-
53	Iodine-121	D, all compounds	1E+4 Thyroid (3E+4)	2E+4 Thyroid (5E+4)	8E-6	-	-	-	-
53	Iodine-123	D, all compounds	3E+3 Thyroid (1E+4)	6E+3 Thyroid (2E+4)	3E-6	-	-	-	-
			-	-	-	2E-8	1E-4	1E-3	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
53	Iodine-124	D, all compounds	5E+1 Thyroid (2E+2)	8E+1 Thyroid (3E+2)	3E-8	-	-	-	-
53	Iodine-125	D, all compounds	4E+1 Thyroid (1E+2)	6E+1 Thyroid (2E+2)	3E-8	-	-	-	-
53	Iodine-126	D, all compounds	2E+1 Thyroid (7E+1)	4E+1 Thyroid (1E+2)	1E-8	-	-	-	-
53	Iodine-128 ²	D, all compounds	4E+4 St wall (6E+4)	1E+5	5E-5	2E-7	-	-	-
53	Iodine-129	D, all compounds	5E+0 Thyroid (2E+1)	9E+0 Thyroid (3E+1)	4E-9	-	-	-	-
53	Iodine-130	D, all compounds	4E+2 Thyroid (1E+3)	7E+2 Thyroid (2E+3)	3E-7	-	-	-	-
53	Iodine-131	D, all compounds	3E+1 Thyroid (9E+1)	5E+1 Thyroid (2E+2)	2E-8	-	-	-	-
53	Iodine-132m ²	D, all compounds	4E+3 Thyroid (1E+4)	8E+3 Thyroid (2E+4)	4E-6	-	-	-	-
53	Iodine-132	D, all compounds	4E+3 Thyroid (9E+3)	8E+3 Thyroid (1E+4)	3E-6	-	-	-	-
53	Iodine-133	D, all compounds	1E+2 Thyroid (5E+2)	3E+2 Thyroid (9E+2)	1E-7	-	-	-	-
53	Iodine-134 ²	D, all compounds	2E+4 Thyroid (3E+4)	5E+4	2E-5	6E-8	-	-	-
53	Iodine-135	D, all compounds	8E+2 Thyroid (3E+3)	2E+3 Thyroid (4E+3)	7E-7	-	-	-	-
54	Xenon-120 ²	Submersion ¹	-	-	1E-5	4E-8	-	-	-
54	Xenon-121 ²	Submersion ¹	-	-	2E-6	1E-8	-	-	-
54	Xenon-122	Submersion ¹	-	-	7E-5	3E-7	-	-	-
54	Xenon-123	Submersion ¹	-	-	6E-6	3E-8	-	-	-
54	Xenon-125	Submersion ¹	-	-	2E-5	7E-8	-	-	-

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
54	Xenon-127	Submersion ¹	-	-	1E-5	6E-8	-	-	-
54	Xenon-129m	Submersion ¹	-	-	2E-4	9E-7	-	-	-
54	Xenon-131m	Submersion ¹	-	-	4E-4	2E-6	-	-	-
54	Xenon-133m	Submersion ¹	-	-	1E-4	6E-7	-	-	-
54	Xenon-133	Submersion ¹	-	-	1E-4	5E-7	-	-	-
54	Xenon-135m ²	Submersion ¹	-	-	9E-6	4E-8	-	-	-
54	Xenon-135	Submersion ¹	-	-	1E-5	7E-8	-	-	-
54	Xenon-138 ²	Submersion ¹	-	-	4E-6	2E-8	-	-	-
55	Cesium-125 ²	D, all compounds	5E+4 St wall (9E+4)	1E+5	6E-5	2E-7	-	-	-
55	Cesium-127	D, all compounds	6E+4	9E+4	4E-5	1E-7	9E-4	9E-3	9E-3
55	Cesium-129	D, all compounds	2E+4	3E+4	1E-5	5E-8	3E-4	3E-3	3E-3
55	Cesium-130 ²	D, all compounds	6E+4 St wall (1E+5)	2E+5	8E-5	3E-7	-	-	-
55	Cesium-131	D, all compounds	2E+4	3E+4	1E-5	4E-8	3E-4	3E-3	3E-3
55	Cesium-132	D, all compounds	3E+3	4E+3	2E-6	6E-9	4E-5	4E-4	4E-4
55	Cesium-134m	D, all compounds	1E+5 St wall (1E+5)	1E+5	6E-5	2E-7	-	-	-
55	Cesium-134	D, all compounds	7E+1	1E+2	4E-8	2E-10	9E-7	9E-6	9E-6
55	Cesium-135m ²	D, all compounds	1E+5	2E+5	8E-5	3E-7	1E-3	1E-2	1E-2
55	Cesium-135	D, all compounds	7E+2	1E+3	5E-7	2E-9	1E-5	1E-4	1E-4
55	Cesium-136	D, all compounds	4E+2	7E+2	3E-7	9E-10	6E-6	6E-5	6E-5
55	Cesium-137	D, all compounds	1E+2	2E+2	6E-8	2E-10	1E-6	1E-5	1E-5
55	Cesium-138 ²	D, all compounds	2E+4 St wall (3E+4)	6E+4	2E-5	8E-8	-	-	-
56	Barium-126 ²	D, all compounds	6E+3	2E+4	6E-6	2E-8	8E-5	8E-4	8E-4
56	Barium-128	D, all compounds	5E+2	2E+3	7E-7	2E-9	7E-6	7E-5	7E-5
56	Barium-131m ²	D, all compounds	4E+5 St wall (5E+5)	1E+6	6E-4	2E-6	-	-	-
							7E-3	7E-2	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
58	Cerium-134	W, all compounds except those given for Y	5E+2 LLI wall (6E+2)	7E+2	3E-7	1E-9	-	-	-
		Y, oxides, hydroxides, and fluorides	-	7E+2	3E-7	9E-10	8E-6	8E-5	-
58	Cerium-135	W, see ^{134}Ce Y, see ^{134}Ce	2E+3 -	4E+3 4E+3	2E-6 1E-6	5E-9 5E-9	2E-5 -	2E-4 -	-
58	Cerium-137m	W, see ^{134}Ce	2E+3 LLI wall (2E+3)	4E+3	2E-6	6E-9	-	-	-
		Y, see ^{134}Ce	-	4E+3	2E-6	5E-9	3E-5	3E-4	-
58	Cerium-137	W, see ^{134}Ce Y, see ^{134}Ce	5E+4 -	1E+5 1E+5	6E-5 5E-5	2E-7 2E-7	7E-4 -	7E-3 -	-
58	Cerium-139	W, see ^{134}Ce Y, see ^{134}Ce	5E+3 -	8E+2 7E+2	3E-7 3E-7	1E-9 9E-10	7E-5 -	7E-4 -	-
58	Cerium-141	W, see ^{134}Ce	2E+3 LLI wall (2E+3)	7E+2	3E-7	1E-9	-	-	-
		Y, see ^{134}Ce	-	6E+2	2E-7	8E-10	3E-5	3E-4	-
58	Cerium-143	W, see ^{134}Ce	1E+3 LLI wall (1E+3)	2E+3	8E-7	3E-9	-	-	-
		Y, see ^{134}Ce	-	2E+3	7E-7	2E-9	2E-5	2E-4	-
58	Cerium-144	W, see ^{134}Ce	2E+2 LLI wall (3E+2)	3E+1	1E-8	4E-11	-	-	-
		Y, see ^{134}Ce	-	1E+1	6E-9	2E-11	3E-6	3E-5	-
59	Praseodymium-136 ²	W, all compounds except those given for Y	5E+4 St wall (7E+4)	2E+5	1E-4	3E-7	-	-	-
		Y, oxides, hydroxides, carbides, and fluorides	-	2E+5	9E-5	3E-7	1E-3	1E-2	-
59	Praseodymium-137 ²	W, see ^{136}Pr Y, see ^{136}Pr	4E+4 -	2E+5 1E+5	6E-5 6E-5	2E-7 2E-7	5E-4 -	5E-3 -	-
59	Praseodymium-138m	W, see ^{136}Pr Y, see ^{136}Pr	1E+4 -	5E+4 4E+4	2E-5 2E-5	8E-8 6E-8	1E-4 -	1E-3 -	-
59	Praseodymium-139	W, see ^{136}Pr Y, see ^{136}Pr	4E+4 -	1E+5 1E+5	5E-5 5E-5	2E-7 2E-7	6E-4 -	6E-3 -	-
59	Praseodymium-142m ²	W, see ^{136}Pr Y, see ^{136}Pr	8E+4 -	2E+5 1E+5	7E-5 6E-5	2E-7 2E-7	1E-3 -	1E-2 -	-

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
59	Praseodymium-142	W, see ^{136}Pr Y, see ^{136}Pr	1E+3 -	2E+3 2E+3	9E-7 8E-7	3E-9 3E-9	1E-5 -	1E-4 -	
59	Praseodymium-143	W, see ^{136}Pr	9E+2 LLI wall (1E+3)	8E+2	3E-7	1E-9	-	-	
		Y, see ^{136}Pr	-	7E+2	3E-7	9E-10	2E-5	2E-4	
59	Praseodymium-144 ²	W, see ^{136}Pr	3E+4 St wall (4E+4)	1E+5	5E-5	2E-7	-	-	
		Y, see ^{136}Pr	-	1E+5	5E-5	2E-7	6E-4	6E-3	
59	Praseodymium-145	W, see ^{136}Pr Y, see ^{136}Pr	3E+3 -	9E+3 8E+3	4E-6 3E-6	1E-8 1E-8	4E-5 -	4E-4 -	
		W, see ^{136}Pr	5E+4 St wall (8E+4)	2E+5	8E-5	3E-7	-	-	
59	Praseodymium-147 ²	Y, see ^{136}Pr	-	2E+5	8E-5	3E-7	1E-3	1E-2	
		Neodymium-136 ²	W, all compounds except those given for Y Y, oxides, hydroxides, carbides, and fluorides	1E+4 -	6E+4 5E+4	2E-5 2E-5	8E-8 8E-8	2E-4 -	2E-3 -
60	Neodymium-138	W, see ^{136}Nd Y, see ^{136}Nd	2E+3 -	6E+3 5E+3	3E-6 2E-6	9E-9 7E-9	3E-5 -	3E-4 -	
60	Neodymium-139m	W, see ^{136}Nd Y, see ^{136}Nd	5E+3 -	2E+4 1E+4	7E-6 6E-6	2E-8 2E-8	7E-5 -	7E-4 -	
60	Neodymium-139 ²	W, see ^{136}Nd Y, see ^{136}Nd	9E+4 -	3E+5 3E+5	1E-4 1E-4	5E-7 4E-7	1E-3 -	1E-2 -	
60	Neodymium-141	W, see ^{136}Nd Y, see ^{136}Nd	2E+5 -	7E+5 6E+5	3E-4 3E-4	1E-6 9E-7	2E-3 -	2E-2 -	
60	Neodymium-147	W, see ^{136}Nd	1E+3 LLI wall (1E+3)	9E+2	4E-7	1E-9	-	-	
		Y, see ^{136}Nd	-	8E+2	4E-7	1E-9	2E-5	2E-4	
60	Neodymium-149 ²	W, see ^{136}Nd Y, see ^{136}Nd	1E+4 -	3E+4 2E+4	1E-5 1E-5	4E-8 3E-8	1E-4 -	1E-3 -	
60	Neodymium-151 ²	W, see ^{136}Nd Y, see ^{136}Nd	7E+4 -	2E+5 2E+5	8E-5 8E-5	3E-7 3E-7	9E-4 -	9E-3 -	
61	Promethium-141 ²	W, all compounds except those given for Y	5E+4 St wall (6E+4)	2E+5	8E-5	3E-7	-	-	
		Y, oxides, hydroxides, carbides, and fluorides	-	-	-	-	8E-4	8E-3	
				2E+5	7E-5	2E-7	-	-	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
61	Promethium-143	W, see ^{141}Pm Y, see ^{141}Pm	5E+3 -	6E+2 7E+2	2E-7 3E-7	8E-10 1E-9	7E-5 -	7E-4 -	
61	Promethium-144	W, see ^{141}Pm Y, see ^{141}Pm	1E+3 -	1E+2 1E+2	5E-8 5E-8	2E-10 2E-10	2E-5 -	2E-4 -	
61	Promethium-145	W, see ^{141}Pm	1E+4	2E+2 Bone surf (2E+2)	7E-8	-	1E-4	1E-3	
		Y, see ^{141}Pm	-	2E+2	8E-8	3E-10 3E-10	- -	- -	
61	Promethium-146	W, see ^{141}Pm Y, see ^{141}Pm	2E+3 -	5E+1 4E+1	2E-8 2E-8	7E-11 6E-11	2E-5 -	2E-4 -	
61	Promethium-147	W, see ^{141}Pm	4E+3 LLI wall (5E+3)	1E+2 Bone surf (2E+2)	5E-8	-	-	-	
		Y, see ^{141}Pm	-	1E+2	6E-8	3E-10 2E-10	7E-5 -	7E-4 -	
61	Promethium-148m	W, see ^{141}Pm Y, see ^{141}Pm	7E+2 -	3E+2 3E+2	1E-7 1E-7	4E-10 5E-10	1E-5 -	1E-4 -	
61	Promethium-148	W, see ^{141}Pm	4E+2 LLI wall (5E+2)	5E+2	2E-7	8E-10	-	-	
		Y, see ^{141}Pm	-	5E+2	2E-7	7E-10	7E-6	7E-5	
61	Promethium-149	W, see ^{141}Pm	1E+3 LLI wall (1E+3)	2E+3	8E-7	3E-9	-	-	
		Y, see ^{141}Pm	-	2E+3	8E-7	2E-9	2E-5	2E-4	
61	Promethium-150	W, see ^{141}Pm Y, see ^{141}Pm	5E+3 -	2E+4 2E+4	8E-6 7E-6	3E-8 2E-8	7E-5 -	7E-4 -	
61	Promethium-151	W, see ^{141}Pm Y, see ^{141}Pm	2E+3 -	4E+3 3E+3	1E-6 1E-6	5E-9 4E-9	2E-5 -	2E-4 -	
62	Samarium-141m ²	W, all compounds	3E+4	1E+5	4E-5	1E-7	4E-4	4E-3	
62	Samarium-141 ²	W, all compounds	5E+4 St wall (6E+4)	2E+5	8E-5	2E-7	-	-	
62	Samarium-142 ²	W, all compounds	8E+3	3E+4	1E-5	4E-8	1E-4	1E-3	
62	Samarium-145	W, all compounds	6E+3	5E+2	2E-7	7E-10	8E-5	8E-4	
62	Samarium-146	W, all compounds	1E+1 Bone surf (3E+1)	4E-2 Bone surf (6E-2)	1E-11	-	9E-14 3E-7	3E-6	
62	Samarium-147	W, all compounds	2E+1 Bone surf (3E+1)	4E+2 Bone surf (7E-2)	2E-11	-	1E-13 4E-7	4E-6	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
62	Samarium-151	W, all compounds	1E+4 LLI wall (1E+4)	1E+2 Bone surf (2E+2)	4E-8	-	-	-	-
62	Samarium-153	W, all compounds	2E+3 LLI wall (2E+3)	3E+3	1E-6	4E-9	-	-	-
62	Samarium-155 ²	W, all compounds	6E+4 St wall (8E+4)	2E+5	9E-5	3E-7	-	-	-
62	Samarium-156	W, all compounds	5E+3	9E+3	4E-6	1E-8	7E-5	7E-4	
63	Europium-145	W, all compounds	2E+3	2E+3	8E-7	3E-9	2E-5	2E-4	
63	Europium-146	W, all compounds	1E+3	1E+3	5E-7	2E-9	1E-5	1E-4	
63	Europium-147	W, all compounds	3E+3	2E+3	7E-7	2E-9	4E-5	4E-4	
63	Europium-148	W, all compounds	1E+3	4E+2	1E-7	5E-10	1E-5	1E-4	
63	Europium-149	W, all compounds	1E+4	3E+3	1E-6	4E-9	2E-4	2E-3	
63	Europium-150 (12.62 h)	W, all compounds	3E+3	8E+3	4E-6	1E-8	4E-5	4E-4	
63	Europium-150 (34.2 y)	W, all compounds	8E+2	2E+1	8E-9	3E-11	1E-5	1E-4	
63	Europium-152m	W, all compounds	3E+3	6E+3	3E-6	9E-9	4E-5	4E-4	
63	Europium-152	W, all compounds	8E+2	2E+1	1E-8	3E-11	1E-5	1E-4	
63	Europium-154	W, all compounds	5E+2	2E+1	8E-9	3E-11	7E-6	7E-5	
63	Europium-155	W, all compounds	4E+3 W, oxides, hydroxides, and fluorides	9E+1 2E+5	4E-8 7E-5	- 2E-7	5E-5 6E-4	5E-4 6E-3	
63	Europium-156	W, all compounds	6E+2	5E+2	2E-7	6E-10	8E-6	8E-5	
63	Europium-157	W, all compounds	2E+3	5E+3	2E-6	7E-9	3E-5	3E-4	
63	Europium-158 ²	W, all compounds	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3	
64	Gadolinium-145 ²	D, all compounds except those given for W	5E+4 St wall (5E+4)	2E+5	6E-5	2E-7	-	-	
		W, oxides, hydroxides, and fluorides	-	2E+5	7E-5	2E-7	-	-	
64	Gadolinium-146	D, see ¹⁴⁵ Gd W, see ¹⁴⁵ Gd	1E+3 -	1E+2 3E+2	5E-8 1E-7	2E-10 4E-10	2E-5 -	2E-4 -	
64	Gadolinium-147	D, see ¹⁴⁵ Gd W, see ¹⁴⁵ Gd	2E+3 -	4E+3 4E+3	2E-6 1E-6	6E-9 5E-9	3E-5 -	3E-4 -	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
64	Gadolinium-148	D, see ^{145}Gd	1E+1 Bone surf (2E+1)	8E+3 Bone surf (2E+2)	3E-12	-	-	-	-
		W, see ^{145}Gd	- 3E-2 (6E-2)	- 1E-11	- 8E-14	2E-14 - -	3E-7 - -	3E-6 - -	-
64	Gadolinium-149	D, see ^{145}Gd	3E+3	2E+3	9E-7	3E-9	4E-5	4E-4	
		W, see ^{145}Gd	-	2E+3	1E-6	3E-9	-	-	
64	Gadolinium-151	D, see ^{145}Gd	6E+3	4E+2 Bone surf (6E+2)	2E-7	-	9E-5	9E-4	
		W, see ^{145}Gd	- - 1E+3	- 5E-7	9E-10 2E-9	- -	- -	- -	
64	Gadolinium-152	D, see ^{145}Gd	2E+1 Bone surf (3E+1)	1E-2 Bone surf (2E-2)	4E-12	-	-	-	
		W, see ^{145}Gd	- - 4E-2 Bone surf (8E-2)	- 2E-11	3E-14 - 1E-13	4E-7 - -	4E-6 - -		
64	Gadolinium-153	D, see ^{145}Gd	5E+3	1E+2 Bone surf (2E+2)	6E-8	-	6E-5	6E-4	
		W, see ^{145}Gd	- - 6E+2	- 2E-7	3E-10 8E-10	- -	- -	- -	
64	Gadolinium-159	D, see ^{145}Gd	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4	
		W, see ^{145}Gd	-	6E+3	2E-6	8E-9	-	-	
65	Terbium-147 ²	W, all compounds	9E+3	3E+4	1E-5	5E-8	1E-4	1E-3	
65	Terbium-149	W, all compounds	5E+3	7E+2	3E-7	1E-9	7E-5	7E-4	
65	Terbium-150	W, all compounds	5E+3	2E+4	9E-6	3E-8	7E-5	7E-4	
65	Terbium-151	W, all compounds	4E+3	9E+3	4E-6	1E-8	5E-5	5E-4	
65	Terbium-153	W, all compounds	5E+3	7E+3	3E-6	1E-8	7E-5	7E-4	
65	Terbium-154	W, all compounds	2E+3	4E+3	2E-6	6E-9	2E-5	2E-4	
65	Terbium-155	W, all compounds	6E+3	8E+3	3E-6	1E-8	8E-5	8E-4	
65	Terbium-156m (5.0 h)	W, all compounds	2E+4	3E+4	1E-5	4E-8	2E-4	2E-3	
65	Terbium-156m (24.4 h)	W, all compounds	7E+3	8E+3	3E-6	1E-8	1E-4	1E-3	
65	Terbium-156	W, all compounds	1E+3	1E+3	6E-7	2E-9	1E-5	1E-4	
65	Terbium-157	W, all compounds	5E+4 LLI wall (5E+4)	3E+2 Bone surf (6E+2)	1E-7	-	-	-	
65	Terbium-158	W, all compounds	1E+3	2E+1	8E-9	3E-11	2E-5	2E-4	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
65	Terbium-160	W, all compounds	8E+2	2E+2	9E-8	3E-10	1E-5	1E-4	
65	Terbium-161	W, all compounds	2E+3 LLI wall (2E+3)	2E+3	7E-7	2E-9	-	-	
66	Dysprosium-155	W, all compounds	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3	
66	Dysprosium-157	W, all compounds	2E+4	6E+4	3E-5	9E-8	3E-4	3E-3	
66	Dysprosium-159	W, all compounds	1E+4	2E+3	1E-6	3E-9	2E-4	2E-3	
66	Dysprosium-165	W, all compounds	1E+4	5E+4	2E-5	6E-8	2E-4	2E-3	
66	Dysprosium-166	W, all compounds	6E+2 LLI wall (8E+2)	7E+2	3E-7	1E-9	-	-	
67	Holmium-155 ²	W, all compounds	4E+4	2E+5	6E-5	2E-7	6E-4	6E-3	
67	Holmium-157 ²	W, all compounds	3E+5	1E+6	6E-4	2E-6	4E-3	4E-2	
67	Holmium-159 ²	W, all compounds	2E+5	1E+6	4E-4	1E-6	3E-3	3E-2	
67	Holmium-161	W, all compounds	1E+5	4E+5	2E-4	6E-7	1E-3	1E-2	
67	Holmium-162m ²	W, all compounds	5E+4	3E+5	1E-4	4E-7	7E-4	7E-3	
67	Holmium-162 ²	W, all compounds	5E+5 St wall (8E+5)	2E+6	1E-3	3E-6	-	-	
67	Holmium-164m ²	W, all compounds	1E+5	3E+5	1E-4	4E-7	1E-3	1E-2	
67	Holmium-164 ²	W, all compounds	2E+5 St wall (2E+5)	6E+5	3E-4	9E-7	-	-	
67	Holmium-166m	W, all compounds	6E+2	7E+0	3E-9	9E-12	9E-6	9E-5	
67	Holmium-166	W, all compounds	9E+2 LLI wall (9E+2)	2E+3	7E-7	2E-9	-	-	
67	Holmium-167	W, all compounds	2E+4	6E+4	2E-5	8E-8	2E-4	2E-3	
68	Erbium-161	W, all compounds	2E+4	6E+4	3E-5	9E-8	2E-4	2E-3	
68	Erbium-165	W, all compounds	6E+4	2E+5	8E-5	3E-7	9E-4	9E-3	
68	Erbium-169	W, all compounds	3E+3 LLI wall (4E+3)	3E+3	1E-6	4E-9	-	-	
68	Erbium-171	W, all compounds	4E+3	1E+4	4E-6	1E-8	5E-5	5E-4	
68	Erbium-172	W, all compounds	1E+3 LLI wall (E+3)	1E+3	6E-7	2E-9	-	-	
							2E-5	2E-4	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
69	Thulium-162 ²	W, all compounds	7E+4 St wall (7E+4)	3E+5	1E-4	4E-7	-	-	-
69	Thulium-166	W, all compounds	4E+3	1E+4	6E-6	2E-8	6E-5	6E-4	
69	Thulium-167	W, all compounds	2E+3 LLI wall (2E+3)	2E+3	8E-7	3E-9	-	-	
69	Thulium-170	W, all compounds	8E+2 LLI wall (1E+3)	2E+2	9E-8	3E-10	-	-	
69	Thulium-171	W, all compounds	1E+4 LLI wall (1E+4)	3E+2 Bone surf (6E+2)	1E-7	-	-	-	
69	Thulium-172	W, all compounds	7E+2 LLI wall (8E+2)	1E+3	5E-7	2E-9	-	-	
69	Thulium-173	W, all compounds	4E+3	1E+4	5E-6	2E-8	6E-5	6E-4	
69	Thulium-175 ²	W, all compounds	7E+4 St wall (9E+4)	3E+5	1E-4	4E-7	-	-	
70	Ytterbium-162 ²	W, all compounds except those given for Y, oxides, hydroxides, and fluorides	7E+4	3E+5	1E-4	4E-7	1E-3	1E-2	
70	Ytterbium-166	W, see ¹⁶² Yb Y, see ¹⁶² Yb	1E+3 -	2E+3 2E+3	8E-7 8E-7	3E-9 3E-9	2E-5 -	2E-4 -	
70	Ytterbium-167 ²	W, see ¹⁶² Yb Y, see ¹⁶² Yb	3E+5 -	8E+5 7E+5	3E-4 3E-4	1E-6 1E-6	4E-3 -	4E-2 -	
70	Ytterbium-169	W, see ¹⁶² Yb Y, see ¹⁶² Yb	2E+3 -	8E+2 7E+2	4E-7 3E-7	1E-9 1E-9	2E-5 -	2E-4 -	
70	Ytterbium-175	W, see ¹⁶² Yb	3E+3 Y, see ¹⁶² Yb	4E+3 -	1E-6 -	5E-9 -	-	-	
70	Ytterbium-177 ²	W, see ¹⁶² Yb Y, see ¹⁶² Yb	2E+4 -	5E+4 5E+4	2E-5 2E-5	7E-8 6E-8	2E-4 -	2E-3 -	
70	Ytterbium-178 ²	W, see ¹⁶² Yb Y, see ¹⁶² Yb	1E+4 -	4E+4 4E+4	2E-5 2E-5	6E-8 5E-8	2E-4 -	2E-3 -	
71	Lutetium-169	W, all compounds except those given for Y, oxides, hydroxides, and fluorides	3E+3	4E+3	2E-6	6E-9	3E-5	3E-4	
			-	4E+3	2E-6	6E-9	-	-	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration ($\mu\text{Ci}/\text{ml}$)
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2		
71	Lutetium-170	W, see ^{169}Lu Y, see ^{169}Lu	1E+3	2E+3	9E-7	3E-9	2E-5	2E-4	
71	Lutetium-171	W, see ^{169}Lu Y, see ^{169}Lu	2E+3	2E+3	8E-7	3E-9	-	-	
71	Lutetium-172	W, see ^{169}Lu Y, see ^{169}Lu	1E+3	1E+3	5E-7	2E-9	1E-5	1E-4	
71	Lutetium-173	W, see ^{169}Lu	5E+3	3E+2 Bone surf (5E+2)	1E-7	-	7E-5	7E-4	
		Y, see ^{169}Lu	-	3E+2	1E-7	6E-10	-	-	
71	Lutetium-174m	W, see ^{169}Lu	2E+3 LLI wall (3E+3)	2E+2 Bone surf (3E+2)	1E-7	-	-	-	
		Y, see ^{169}Lu	-	2E+2	9E-8	5E-10	4E-5	4E-4	
71	Lutetium-174	W, see ^{169}Lu	5E+3	1E+2 Bone surf (2E+2)	5E-8	-	7E-5	7E-4	
		Y, see ^{169}Lu	-	2E+2	6E-8	3E-10	-	-	
71	Lutetium-176m	W, see ^{169}Lu Y, see ^{169}Lu	8E+3	3E+4	1E-5	3E-8	1E-4	1E-3	
71	Lutetium-176	W, see ^{169}Lu	7E+2	5E+0 Bone surf (1E+1)	2E-9	-	1E-5	1E-4	
		Y, see ^{169}Lu	-	8E+0	3E-9	2E-11	-	-	
71	Lutetium-177m	W, see ^{169}Lu	7E+2	1E+2 Bone surf (1E+2)	5E-8	-	1E-5	1E-4	
		Y, see ^{169}Lu	-	8E+1	3E-8	2E-10	-	-	
71	Lutetium-177	W, see ^{169}Lu	2E+3 LLI wall (3E+3)	2E+3	9E-7	3E-9	-	-	
		Y, see ^{169}Lu	-	2E+3	9E-7	3E-9	4E-5	4E-4	
71	Lutetium-178m ²	W, see ^{169}Lu	5E+4 St. wall (6E+4)	2E+5	8E-5	3E-7	-	-	
		Y, see ^{169}Lu	-	2E+5	7E-5	2E-7	8E-4	8E-3	
71	Lutetium-178 ²	W, see ^{169}Lu	4E+4 St wall (4E+4)	1E+5	5E-5	2E-7	-	-	
		Y, see ^{169}Lu	-	1E+5	5E-5	2E-7	6E-4	6E-3	
71	Lutetium-179	W, see ^{169}Lu Y, see ^{169}Lu	6E+3	2E+4	8E-6	3E-8	9E-5	9E-4	
72	Hafnium-170	D, all compounds except those given for W W, oxides, hydroxides, carbides, and nitrates	3E+3	6E+3	2E-6	8E-9	4E-5	4E-4	
			-	5E+3	2E-6	6E-9	-	-	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
72	Hafnium-172	D, see ^{170}Hf	1E+3	9E+0 Bone surf (2E+1)	4E-9 -	-	2E-5	2E-4	
		W, see ^{170}Hf	-	4E+1 Bone surf (6E+1)	2E-8 -	3E-11 -	-	-	
			-	-	8E-11	-	-	-	
72	Hafnium-173	D, see ^{170}Hf	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4	
		W, see ^{170}Hf	-	1E+4	5E-6	2E-8	-	-	
72	Hafnium-175	D, see ^{170}Hf	3E+3	9E+2 Bone surf (1E+3)	4E-7	-	4E-5	4E-4	
		W, see ^{170}Hf	-	1E+3	5E-7	1E-9 2E-9	-	-	
			-	-	-	-	-	-	
72	Hafnium-177m ²	D, see ^{170}Hf	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3	
		W, see ^{170}Hf	-	9E+4	4E-5	1E-7	-	-	
72	Hafnium-178m	D, see ^{170}Hf	3E+2	1E+0 Bone surf (2E+0)	5E-10	-	3E-6	3E-5	
		W, see ^{170}Hf	-	5E+0 Bone surf (9E+0)	2E-9	3E-12 -	-	-	
			-	-	1E-11	-	-	-	
72	Hafnium-179m	D, see ^{170}Hf	1E+3	3E+2 Bone surf (6E+2)	1E-7	-	1E-5	1E-4	
		W, see ^{170}Hf	-	6E+2	3E-7	8E-10 8E-10	-	-	
			-	-	-	-	-	-	
72	Hafnium-180m	D, see ^{170}Hf	7E+3	2E+4	9E-6	3E-8	1E-4	1E-3	
		W, see ^{170}Hf	-	3E+4	1E-5	4E-8	-	-	
72	Hafnium-181	D, see ^{170}Hf	1E+3	2E+2 Bone surf (4E+2)	7E-8	-	2E-5	2E-4	
		W, see ^{170}Hf	-	4E+2	2E-7	6E-10 6E-10	-	-	
			-	-	-	-	-	-	
72	Hafnium-182m ²	D, see ^{170}Hf	4E+4	9E+4	4E-5	1E-7	5E-4	5E-3	
		W, see ^{170}Hf	-	1E+5	6E-5	2E-7	-	-	
72	Hafnium-182	D, see ^{170}Hf	2E+2	8E-1 Bone surf (4E+2)	3E-10	-	-	-	
		W, see ^{170}Hf	-	3E+0 Bone surf (7E+0)	1E-9	2E-12 -	5E-6	5E-5	
			-	-	1E-11	-	-	-	
72	Hafnium-183 ²	D, see ^{170}Hf	2E+4	5E+4	2E-5	6E-8	3E-4	3E-3	
		W, see ^{170}Hf	-	6E+4	2E-5	8E-8	-	-	
72	Hafnium-184	D, see ^{170}Hf	2E+3	8E+3	3E-6	1E-8	3E-5	3E-4	
		W, see ^{170}Hf	-	6E+3	3E-6	9E-9	-	-	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
73	Tantalum-172 ²	W, all compounds except those given for Y Y, elemental Ta, oxides, hydroxides, halides, carbides, nitrates, and nitrides	4E+4	1E+5	5E-5	2E-7	5E-4	5E-3	
73	Tantalum-173	W, see ¹⁷² Ta Y, see ¹⁷² Ta	7E+3	2E+4	8E-6	3E-8	9E-5	9E-4	
73	Tantalum-174 ²	W, see ¹⁷² Ta Y, see ¹⁷² Ta	3E+4	1E+5	4E-5	1E-7	-	-	4E-3
73	Tantalum-175	W, see ¹⁷² Ta Y, see ¹⁷² Ta	6E+3	2E+4	7E-6	2E-8	8E-5	8E-4	
73	Tantalum-176	W, see ¹⁷² Ta Y, see ¹⁷² Ta	4E+3	1E+4	5E-6	2E-8	5E-5	5E-4	
73	Tantalum-177	W, see ¹⁷² Ta Y, see ¹⁷² Ta	1E+4	2E+4	8E-6	3E-8	2E-4	2E-3	
73	Tantalum-178	W, see ¹⁷² Ta Y, see ¹⁷² Ta	2E+4	9E+4	4E-5	1E-7	2E-4	2E-3	
73	Tantalum-179	W, see ¹⁷² Ta Y, see ¹⁷² Ta	2E+4	5E+3	2E-6	8E-9	3E-4	3E-3	
73	Tantalum-180m	W, see ¹⁷² Ta Y, see ¹⁷² Ta	2E+4	7E+4	3E-5	9E-8	3E-4	3E-3	
73	Tantalum-180	W, see ¹⁷² Ta Y, see ¹⁷² Ta	1E+3	4E+2	2E-7	6E-10	2E-5	2E-4	
73	Tantalum-182m ²	W, see ¹⁷² Ta Y, see ¹⁷² Ta	2E+5 (2E+5)	5E+5 - 4E+5	2E-4 - 2E-4	8E-7 - 6E-7	- - -	- - -	3E-2
73	Tantalum-182	W, see ¹⁷² Ta Y, see ¹⁷² Ta	8E+2	3E+2	1E-7	5E-10	1E-5	1E-4	
73	Tantalum-183	W, see ¹⁷² Ta Y, see ¹⁷² Ta	9E+2 (1E+3)	1E+3 - 1E+3	5E-7 - 4E-7	2E-9 - 1E-9	- - -	- - -	2E-4
73	Tantalum-184	W, see ¹⁷² Ta Y, see ¹⁷² Ta	2E+3	5E+3	2E-6	8E-9	3E-5	3E-4	
73	Tantalum-185 ²	W, see ¹⁷² Ta Y, see ¹⁷² Ta	3E+4	7E+4	3E-5	1E-7	4E-4	4E-3	
73	Tantalum-186 ²	W, see ¹⁷² Ta Y, see ¹⁷² Ta	5E+4 (7E+4)	2E+5 - 2E+5	1E-4 - 9E-5	3E-7 - 3E-7	- - -	- - -	1E-2
74	Tungsten-176	D, all compounds	1E+4	5E+4	2E-5	7E-8	1E-4	1E-3	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
74	Tungsten-177	D, all compounds	2E+4	9E+4	4E-5	1E-7	3E-4	3E-3	
74	Tungsten-178	D, all compounds	5E+3	2E+4	8E-6	3E-8	7E-5	7E-4	
74	Tungsten-179 ²	D, all compounds	5E+5	2E+6	7E-4	2E-6	7E-3	7E-2	
74	Tungsten-181	D, all compounds	2E+4	3E+4	1E-5	5E-8	2E-4	2E-3	
74	Tungsten-185	D, all compounds	2E+3 LLI wall (3E+3)	7E+3	3E-6	9E-9	-	-	
74	Tungsten-187	D, all compounds	2E+3	9E+3	4E-6	1E-8	3E-5	3E-4	
74	Tungsten-188	D, all compounds	4E+2 LLI wall (5E+2)	1E+3	5E-7	2E-9	-	-	
75	Rhenium-177 ²	D, all compounds except those given for W	9E+4 St wall (1E+5)	3E+5	1E-4	4E-7	-	-	
		W, oxides, hydroxides, and nitrates	-	4E+5	1E-4	5E-7	-	-	2E-2
75	Rhenium-178 ²	D, see ¹⁷⁷ Re	7E+4 St wall (1E+5)	3E+5	1E-4	4E-7	-	-	
		W, see ¹⁷⁷ Re	-	3E+5	1E-4	4E-7	1E-3	1E-2	
75	Rhenium-181	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	5E+3 - 9E+3	9E+3 4E-6	4E-6 1E-8	1E-8 1E-8	7E-5 -	7E-4 -	
75	Rhenium-182 (12.7 h)	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	7E+3 - 2E+4	1E+4 6E-6	5E-6 2E-8	2E-8 2E-8	9E-5 -	9E-4 -	
75	Rhenium-182 (64.0 h)	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	1E+3 - 2E+3	2E+3 9E-7	1E-6 3E-9	3E-9 3E-9	2E-5 -	2E-4 -	
75	Rhenium-184m	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	2E+3 - 4E+2	3E+3 2E-7	1E-6 2E-7	4E-9 6E-10	3E-5 -	3E-4 -	
75	Rhenium-184	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	2E+3 - 1E+3	4E+3 6E-7	1E-6 2E-9	5E-9 2E-9	3E-5 -	3E-4 -	
75	Rhenium-186m	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	1E+3 - 2E+2	2E+3 6E-8	7E-7 2E-10	- 3E-9	- 2E-5	- 2E-4	
75	Rhenium-186	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	2E+3 - 2E+3	3E+3 7E-7	1E-6 2E-9	4E-9 2E-9	3E-5 -	3E-4 -	
75	Rhenium-187	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	6E+5 - 1E+5	8E+5 (9E+5) 1E+5	4E-4 -	- 1E-6	8E-3 -	8E-2 -	

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	
75	Rhenium-188m ²	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	8E+4 -	1E+5 1E+5	6E-5 6E-5	2E-7 2E-7	1E-3 -	1E-2 -
75	Rhenium-188	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	2E+3 -	3E+3 3E+3	1E-6 1E-6	4E-9 4E-9	2E-5 -	2E-4 -
75	Rhenium-189	D, see ¹⁷⁷ Re W, see ¹⁷⁷ Re	3E+3 -	5E+3 4E+3	2E-6 2E-6	7E-9 6E-9	4E-5 -	4E-4 -
76	Osmium-180 ²	D, all compounds except those given for W and Y W, halides and nitrates Y, oxides and hydroxides	1E+5 - -	4E+5 5E+5 5E+5	2E-4 2E-4 2E-4	5E-7 7E-7 6E-7	1E-3 - -	1E-2 - -
76	Osmium-181 ²	D, see ¹⁸⁰ Os W, see ¹⁸⁰ Os Y, see ¹⁸⁰ Os	1E+4 - -	4E+4 5E+4 4E+4	2E-5 2E-5 2E-5	6E-8 6E-8 6E-8	2E-4 - -	2E-3 - -
76	Osmium-182	D, see ¹⁸⁰ Os W, see ¹⁸⁰ Os Y, see ¹⁸⁰ Os	2E+3 - -	6E+3 4E+3 4E+3	2E-6 2E-6 2E-6	8E-9 6E-9 6E-9	3E-5 - -	3E-4 - -
76	Osmium-185	D, see ¹⁸⁰ Os W, see ¹⁸⁰ Os Y, see ¹⁸⁰ Os	2E+3 - -	5E+2 8E+2 8E+2	2E-7 3E-7 3E-7	7E-10 1E-9 1E-9	3E-5 - -	3E-4 - -
76	Osmium-189m	D, see ¹⁸⁰ Os W, see ¹⁸⁰ Os Y, see ¹⁸⁰ Os	8E+4 - -	2E+5 2E+5 2E+5	1E-4 9E-5 7E-5	3E-7 3E-7 2E-7	1E-3 - -	1E-2 - -
76	Osmium-191m	D, see ¹⁸⁰ Os W, see ¹⁸⁰ Os Y, see ¹⁸⁰ Os	1E+4 - -	3E+4 2E+4 2E+4	1E-5 8E-6 7E-6	4E-8 3E-8 2E-8	2E-4 - -	2E-3 - -
76	Osmium-191	D, see ¹⁸⁰ Os W, see ¹⁸⁰ Os Y, see ¹⁸⁰ Os	2E+3 LLI wall (3E+3) - -	2E+3 LLI wall (3E+3) 2E+3 1E+3	9E-7 - - 7E-7 6E-7	3E-9 - - 2E-9 2E-9	- 3E-5 - -	- 3E-4 - -
76	Osmium-193	D, see ¹⁸⁰ Os W, see ¹⁸⁰ Os Y, see ¹⁸⁰ Os	2E+3 LLI wall (2E+3) - -	5E+3 LLI wall (3E+3) 3E+3 3E+3	2E-6 - - 1E-6 1E-6	6E-9 - - 4E-9 4E-9	- 2E-5 - -	- 2E-4 - -
76	Osmium-194	D, see ¹⁸⁰ Os W, see ¹⁸⁰ Os Y, see ¹⁸⁰ Os	4E+2 LLI wall (6E+2) - -	4E+1 LLI wall (6E+2) 6E+1 8E+0	2E-8 - - 2E-8 3E-9	6E-11 - - 8E-11 1E-11	- 8E-6 -	- 8E-5 -
77	Iridium-182 ²	D, all compounds except those given for W and Y W, halides, nitrates, and metallic iridium Y, oxides and hydroxides	4E+4 St wall (4E+4) - -	1E+5 - - 2E+5 1E+5	6E-5 - - 6E-5 5E-5	2E-7 - - 2E-7 2E-7	- 6E-4 -	- 6E-3 -

Atomic No.	Radionuclide	Class	Table I			Table II		Table III
			Occupational Values			Effluent Concentrations		Releases to Sewers
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Monthly Average Concentration (μ Ci/ml)
77	Iridium-184	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	8E+3 - -	2E+4 3E+4 3E+4	1E-5 1E-5 1E-5	3E-8 5E-8 4E-8	1E-4 - -	1E-3 - -
77	Iridium-185	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	5E+3 - -	1E+4 1E+4 1E+4	5E-6 5E-6 4E-6	2E-8 2E-8 1E-8	7E-5 - -	7E-4 - -
77	Iridium-186	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	2E+3 - -	8E+3 6E+3 6E+3	3E-6 3E-6 2E-6	1E-8 9E-9 8E-9	3E-5 - -	3E-4 - -
77	Iridium-187	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	1E+4 - -	3E+4 3E+4 3E+4	1E-5 1E-5 1E-5	5E-8 4E-8 4E-8	1E-4 - -	1E-3 - -
77	Iridium-188	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	2E+3 - -	5E+3 4E+3 3E+3	2E-6 1E-6 1E-6	6E-9 5E-9 5E-9	3E-5 - -	3E-4 - -
77	Iridium-189	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	5E+3 LLI wall (5E+3) - -	5E+3 - 4E+3 4E+3	2E-6 - 2E-6 1E-6	7E-9 - 5E-9 5E-9	- 7E-5 - -	- 7E-4 - -
77	Iridium-190m ²	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	2E+5 - -	2E+5 2E+5 2E+5	8E-5 9E-5 8E-5	3E-7 3E-7 3E-7	2E-3 - -	2E-2 - -
77	Iridium-190	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	1E+3 - -	9E+2 1E+3 9E+2	4E-7 4E-7 4E-7	1E-9 1E-9 1E-9	1E-5 - -	1E-4 - -
77	Iridium-192m	D, see ^{182}Ir W, see ^{182}Ir	3E+3 - -	9E+1 2E+2 2E+1	4E-8 9E-8 6E-9	1E-10 3E-10 2E-11	4E-5 - -	4E-4 - -
77	Iridium-192	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	9E+2 - -	3E+2 4E+2 2E+2	1E-7 2E-7 9E-8	4E-10 6E-10 3E-10	1E-5 - -	1E-4 - -
77	Iridium-194m	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	6E+2 - -	9E+1 2E+2 1E+2	4E-8 7E-8 4E-8	1E-10 2E-10 1E-10	9E-6 - -	9E-5 - -
77	Iridium-194	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	1E+3 - -	3E+3 2E+3 2E+3	1E-6 9E-7 8E-7	4E-9 3E-9 3E-9	1E-5 - -	1E-4 - -
77	Iridium-195m	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	8E+3 - -	2E+4 3E+4 2E+4	1E-5 1E-5 9E-6	3E-8 4E-8 3E-8	1E-4 - -	1E-3 - -
77	Iridium-195	D, see ^{182}Ir W, see ^{182}Ir Y, see ^{182}Ir	1E+4 - -	4E+4 5E+4 4E+4	2E-5 2E-5 2E-5	6E-8 7E-8 6E-8	2E-4 - -	2E-3 - -

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
78	Platinum-186	D, all compounds	1E+4	4E+4	2E-5	5E-8	2E-4	2E-3	
78	Platinum-188	D, all compounds	2E+3	2E+3	7E-7	2E-9	2E-5	2E-4	
78	Platinum-189	D, all compounds	1E+4	3E+4	1E-5	4E-8	1E-4	1E-3	
78	Platinum-191	D, all compounds	4E+3	8E+3	4E-6	1E-8	5E-5	5E-4	
78	Platinum-193m	D, all compounds	3E+3 LLI wall (3E+4)	6E+3	3E-6	8E-9	-	-	
78	Platinum-193	D, all compounds	4E+4 LLI wall (5E+4)	2E+4	1E-5	3E-8	-	-	
78	Platinum-195m	D, all compounds	2E+3 LLI wall (2E+3)	4E+3	2E-6	6E-9	-	-	
78	Platinum-197m ²	D, all compounds	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3	
78	Platinum-197	D, all compounds	3E+3	1E+4	4E-6	1E-8	4E-5	4E-4	
78	Platinum-199 ²	D, all compounds	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3	
78	Platinum-200	D, all compounds	1E+3	3E+3	1E-6	5E-9	2E-5	2E-4	
79	Gold-193	D, all compounds except those given for W and Y W, halides and nitrates Y, oxides and hydroxides	9E+3 - -	3E+4 2E+4 2E+4	1E-5 9E-6 8E-6	4E-8 3E-8 3E-8	1E-4 - -	1E-3	
79	Gold-194	D, see ¹⁹³ Au W, see ¹⁹³ Au Y, see ¹⁹³ Au	3E+3 - -	8E+3 5E+3 5E+3	3E-6 2E-6 2E-6	1E-8 8E-9 7E-9	4E-5 - -	4E-4	
79	Gold-195	D, see ¹⁹³ Au W, see ¹⁹³ Au Y, see ¹⁹³ Au	5E+3 - -	1E+4 1E+3 4E+2	5E-6 6E-7 2E-7	2E-8 2E-9 6E-10	7E-5 - -	7E-4	
79	Gold-198m	D, see ¹⁹³ Au W, see ¹⁹³ Au Y, see ¹⁹³ Au	1E+3 - -	3E+3 1E+3 1E+3	1E-6 5E-7 5E-7	4E-9 2E-9 2E-9	1E-5 - -	1E-4	
79	Gold-198	D, see ¹⁹³ Au W, see ¹⁹³ Au Y, see ¹⁹³ Au	1E+3 - -	4E+3 2E+3 2E+3	2E-6 8E-7 7E-7	5E-9 3E-9 2E-9	2E-5 - -	2E-4	
79	Gold-199	D, see ¹⁹³ Au W, see ¹⁹³ Au Y, see ¹⁹³ Au	3E+3 - -	9E+3 4E+3 4E+3	4E-6 - 2E-6	1E-8 - 6E-9	- 4E-5 -	- 4E-4 -	
79	Gold-200m	D, see ¹⁹³ Au W, see ¹⁹³ Au Y, see ¹⁹³ Au	1E+3 - -	4E+3 3E+3 2E+4	1E-6 1E-6 1E-6	5E-9 4E-9 3E-9	2E-5 - -	2E-4 - -	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration ($\mu\text{Ci}/\text{ml}$)
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2		
ALI (μCi)	ALI (μCi)	DAC ($\mu\text{Ci}/\text{ml}$)	Air ($\mu\text{Ci}/\text{ml}$)	Water ($\mu\text{Ci}/\text{ml}$)					
79	Gold-2002	D, see ^{193}Au W, see ^{193}Au Y, see ^{193}Au	3E+4 - -	6E+4 8E+4 7E+4	3E-5 3E-5 3E-5	9E-8 1E-7 1E-7	4E-4 - -	4E-3 - -	
79	Gold-201 ²	D, see ^{193}Au W, see ^{193}Au Y, see ^{193}Au	7E+4 (9E+4) - -	2E+5 2E+5 2E+5	9E-5 1E-4 9E-5	3E-7 3E-7 3E-7	- 1E-3 -	- 1E-2 -	
80	Mercury-193m	Vapor Organic D D, sulfates W, oxides, hydroxides, halides, nitrates, and sulfides	- 4E+3 3E+3	8E+3 1E+4 9E+3	4E-6 5E-6 4E-6	1E-8 2E-8 1E-8	- 6E-5 4E-5	- - -	6E-4 4E-4
80	Mercury-193	Vapor Organic D D, see $^{193\text{m}}\text{Hg}$ W, see $^{193\text{m}}\text{Hg}$	- 2E+4 2E+4 -	3E+4 6E+4 4E+4 4E+4	1E-5 3E-5 2E-5 2E-5	4E-8 9E-8 6E-8 6E-8	- 3E-4 2E-4 -	- 3E-3 2E-3	
80	Mercury-194	Vapor Organic D D, see $^{193\text{m}}\text{Hg}$ W, see $^{193\text{m}}\text{Hg}$	- 2E+1 8E+2 -	3E+1 3E+1 4E+1 1E+2	1E-8 1E-8 2E-8 5E-8	4E-11 4E-11 6E-11 2E-10	- 2E-7 1E-5 -	- 2E-6 1E-4 -	
80	Mercury-195m	Vapor Organic D D, see $^{193\text{m}}\text{Hg}$ W, see $^{193\text{m}}\text{Hg}$	- 3E+3 2E+3 -	4E+3 6E+3 5E+3 4E+3	2E-6 3E-6 2E-6 2E-6	6E-9 8E-9 7E-9 5E-9	- 4E-5 3E-5 -	- 4E-4 3E-4 -	
80	Mercury-195	Vapor Organic D D, see $^{193\text{m}}\text{Hg}$ W, see $^{193\text{m}}\text{Hg}$	- 2E+4 1E+4 -	3E+4 5E+4 4E+4 3E+4	1E-5 2E-5 1E-5 1E-5	4E-8 6E-8 5E-8 5E-8	- 2E-4 2E-4 -	- 2E-3 2E-3 -	
80	Mercury-197m	Vapor Organic D D, see $^{193\text{m}}\text{Hg}$ W, see $^{193\text{m}}\text{Hg}$	- 4E+3 3E+3 -	5E+3 9E+3 7E+3 5E+3	2E-6 4E-6 3E-6 2E-6	7E-9 1E-8 1E-8 7E-9	- 5E-5 4E-5 -	- 5E-4 4E-4 -	
80	Mercury-197	Vapor Organic D D, see $^{193\text{m}}\text{Hg}$ W, see $^{193\text{m}}\text{Hg}$	- 7E+3 6E+3 -	8E+3 1E+4 1E+4 9E+3	4E-6 6E-6 5E-6 4E-6	1E-8 2E-8 2E-8 1E-8	- 9E-5 8E-5 -	- 9E-4 8E-4 -	
80	Mercury-199m ²	Vapor Organic D D, see $^{193\text{m}}\text{Hg}$ W, see $^{193\text{m}}\text{Hg}$	- 6E+4 6E+4 -	8E+4 2E+5 1E+5 1E+5 2E+5	3E-5 7E-5 6E-5 2E-7 7E-5	1E-7 2E-7 2E-7 8E-4 2E-7	- - 1E-3 8E-4 -	- - 1E-2 8E-3 -	
80	Mercury-203	Vapor Organic D D, see $^{193\text{m}}\text{Hg}$ W, see $^{193\text{m}}\text{Hg}$	- 5E+2 2E+3 -	8E+2 8E+2 1E+3 1E+3	4E-7 3E-7 5E-7 5E-7	1E-9 1E-9 2E-9 2E-9	- 7E-6 3E-5 -	- 7E-5 3E-4 -	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
81	Thallium-194m ²	D, all compounds	5E+4 St wall (7E+4)	2E+5	6E-5	2E-7	-	-	-
81	Thallium-194 ²	D, all compounds	3E+5 St wall (3E+5)	6E+5	2E-4	8E-7	-	-	-
81	Thallium-195 ²	D, all compounds	6E+4	1E+5	5E-5	2E-7	9E-4	9E-3	9E-3
81	Thallium-197	D, all compounds	7E+4	1E+5	5E-5	2E-7	1E-3	1E-2	1E-2
81	Thallium-198m ²	D, all compounds	3E+4	5E+4	2E-5	8E-8	4E-4	4E-3	4E-3
81	Thallium-198	D, all compounds	2E+4	3E+4	1E-5	5E-8	3E-4	3E-3	3E-3
81	Thallium-199	D, all compounds	6E+4	8E+4	4E-5	1E-7	9E-4	9E-3	9E-3
81	Thallium-200	D, all compounds	8E+3	1E+4	5E-6	2E-8	1E-4	1E-3	1E-3
81	Thallium-201	D, all compounds	2E+4	2E+4	9E-6	3E-8	2E-4	2E-3	2E-3
81	Thallium-202	D, all compounds	4E+3	5E+3	2E-6	7E-9	5E-5	5E-4	5E-4
81	Thallium-204	D, all compounds	2E+3	2E+3	9E-7	3E-9	2E-5	2E-4	2E-4
82	Lead-195m ²	D, all compounds	6E+4	2E+5	8E-5	3E-7	8E-4	8E-3	8E-3
82	Lead-198	D, all compounds	3E+4	6E+4	3E-5	9E-8	4E-4	4E-3	4E-3
82	Lead-199 ²	D, all compounds	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3	3E-3
82	Lead-200	D, all compounds	3E+3	6E+3	3E-6	9E-9	4E-5	4E-4	4E-4
82	Lead-201	D, all compounds	7E+3	2E+4	8E-6	3E-8	1E-4	1E-3	1E-3
82	Lead-202m	D, all compounds	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3	1E-3
82	Lead-202	D, all compounds	1E+2	5E+1	2E-8	7E-11	2E-6	2E-5	2E-5
82	Lead-203	D, all compounds	5E+3	9E+3	4E-6	1E-8	7E-5	7E-4	7E-4
82	Lead-205	D, all compounds	4E+3	1E+3	6E-7	2E-9	5E-5	5E-4	5E-4
82	Lead-209	D, all compounds	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3	3E-3
82	Lead-210	D, all compounds	6E-1 Bone surf (1E+0)	2E-1 Bone surf (4E-1)	1E-10	-	-	-	-
82	Lead-211 ²	D, all compounds	1E+4	6E+2	3E-7	9E-10	2E-4	2E-3	2E-3
82	Lead-212	D, all compounds	8E+1 Bone surf (1E+2)	3E+1	1E-8	5E-11	-	-	-
82	Lead-214 ²	D, all compounds	9E+3	8E+2	3E-7	1E-9	1E-4	1E-3	1E-3

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
83	Bismuth-200 ²	D, nitrates W, all other compounds	3E+4 -	8E+4 1E+5	4E-5 4E-5	1E-7 1E-7	4E-4 -	4E-3 -	
83	Bismuth-201 ²	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	1E+4 -	3E+4 4E+4	1E-5 2E-5	4E-8 5E-8	2E-4 -	2E-3 -	
83	Bismuth-202 ²	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	1E+4 -	4E+4 8E+4	2E-5 3E-5	6E-8 1E-7	2E-4 -	2E-3 -	
83	Bismuth-203	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	2E+3 -	7E+3 6E+3	3E-6 3E-6	9E-9 9E-9	3E-5 -	3E-4 -	
83	Bismuth-205	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	1E+3 -	3E+3 1E+3	1E-6 5E-7	3E-9 2E-9	2E-5 -	2E-4 -	
83	Bismuth-206	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	6E+2 -	1E+3 9E+2	6E-7 4E-7	2E-9 1E-9	9E-6 -	9E-5 -	
83	Bismuth-207	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	1E+3 -	2E+3 4E+2	7E-7 1E-7	2E-9 5E-10	1E-5 -	1E-4 -	
83	Bismuth-210m	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	4E+1 -	5E+0 Kidneys (6E+1) -	2E-9 -	- 9E-12 9E-13	- 8E-7 -	- 8E-6 -	
83	Bismuth-210	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	8E+2 -	2E+2 (4E+2) -	1E-7 -	- 5E-10 4E-11	1E-5 -	1E-4 -	
83	Bismuth-212 ²	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	5E+3 -	2E+2 3E+2	1E-7 1E-7	3E-10 4E-10	7E-5 -	7E-4 -	
83	Bismuth-213 ²	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	7E+3 -	3E+2 4E+2	1E-7 1E-7	4E-10 5E-10	1E-4 -	1E-3 -	
83	Bismuth-214 ²	D, see ²⁰⁰ Bi W, see ²⁰⁰ Bi	2E+4 -	8E+2 9E-2	3E-7 4E-7	1E-9 1E-9	- 3E-4	- 3E-3	
84	Polonium-203 ²	D, all compounds except those given for W W, oxides, hydroxides, and nitrates	3E+4 -	6E+4 9E+4	3E-5 4E-5	9E-8 1E-7	3E-4 -	3E-3 -	
84	Polonium-205 ²	D, see ²⁰³ Po W, see ²⁰³ Po	2E+4 -	4E+4 7E+4	2E-5 3E-5	5E-8 1E-7	3E-4 -	3E-3 -	
84	Polonium-207	D, see ²⁰³ Po W, see ²⁰³ Po	8E+3 -	3E+4 3E+4	1E-5 1E-5	3E-8 4E-8	1E-4 -	1E-3 -	
84	Polonium-210	D, see ²⁰³ Po W, see ²⁰³ Po	3E+0 -	6E-1 6E-1	3E-10 3E-10	9E-13 9E-13	4E-8 -	4E-7 -	
85	Astatine-207 ²	D, halides W	6E+3 -	3E+3 2E+3	1E-6 9E-7	4E-9 3E-9	8E-5 -	8E-4 -	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
85	Astatine-211	D, halides	1E+2	8E+1	3E-8	1E-10	2E-6	2E-5	
		W	-	5E+1	2E-8	8E-11	-	-	
86	Radon-220	With daughters removed	-	2E+4	7E-6	2E-8	-	-	
		With daughters present	-	2E+1 (or 12 working level months)	9E-9 (or 1.0 working level months)	3E-11	-	-	
86	Radon-222	With daughters removed	-	1E+4	4E-6	1E-8	-	-	
		With daughters present	-	1E+2 (or 4 working level months)	3E-8 (or 0.33 working level months)	1E-10	-	-	
87	Francium-222 ²	D, all compounds	2E+3	5E+2	2E-7	6E-10	3E-5	3E-4	
87	Francium-223 ²	D, all compounds	6E+2	8E+2	3E-7	1E-9	8E-6	8E-5	
88	Radium-223	W, all compounds	5E+0 Bone surf (9E+0)	7E-1	3E-10	9E-13	-	-	
88	Radium-224	W, all compounds	8E+0 Bone surf (2E+1)	2E+0	7E-10	2E-12	-	-	
88	Radium-225	W, all compounds	8E+0 Bone surf (2E+1)	7E-1	3E-10	9E-13	-	-	
88	Radium-226	W, all compounds	2E+0 Bone surf (5E+0)	6E-1	3E-10	9E-13	-	-	
88	Radium-227 ²	W, all compounds	2E+4 Bone surf (2E+4)	1E+4 Bone surf (2E+4)	6E-6	-	-	-	
88	Radium-228	W, all compounds	2E+0 Bone surf (4E+0)	1E+0	5E-10	2E-12	-	-	
89	Actinium-224	D, all compounds except those given for W and Y	2E+3 LLI wall (2E+3)	3E+1 Bone surf (4E+1)	1E-8	-	-	-	
		W, halides and nitrates	-	5E+1	2E-8	5E-11	3E-5	3E-4	
		Y, oxides and hydroxides	-	5E+1	2E-8	7E-11	-	-	
89	Actinium-225	D, see ²²⁴ Ac	5E+1 LLI wall (5E+1)	3E-1 Bone surf (5E-1)	1E-10	-	-	-	
		W, see ²²⁴ Ac	-	6E-1	3E-10	7E-13	7E-7	7E-6	
		Y, see ²²⁴ Ac	-	6E-1	3E-10	9E-13	-	-	

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
			Col. 1 <u>Ingestion</u>	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration ($\mu\text{Ci}/\text{ml}$)
			ALI (μCi)	ALI (μCi)	DAC ($\mu\text{Ci}/\text{ml}$)	Air ($\mu\text{Ci}/\text{ml}$)	Water ($\mu\text{Ci}/\text{ml}$)	
89	Actinium-226	D, see ^{224}Ac	1E+2 LLI wall (1E+2)	3E+0 Bone surf (4E+0)	1E-9 -	-	-	-
		W, see ^{224}Ac	-	5E+0	2E-9	5E-12	2E-6	2E-5
		Y, see ^{224}Ac	-	5E+0	2E-9	6E-12	-	-
89	Actinium-227	D, see ^{224}Ac	2E-1 Bone surf (4E-1)	4E-4 Bone surf (8E-4)	2E-13 -	-	-	-
		W, see ^{224}Ac	-	2E-3	7E-13	1E-15	5E-9	5E-8
		Y, see ^{224}Ac	-	(3E-3)	-	4E-15	-	-
89	Actinium-228	D, see ^{224}Ac	2E+3 -	9E+0 Bone surf (2E+1)	4E-9 -	-	3E-5	3E-4
		W, see ^{224}Ac	-	4E+1 Bone surf (6E+1)	2E-8 -	2E-11 -	-	-
		Y, see ^{224}Ac	-	4E+1	2E-8	8E-11	-	-
90	Thorium-226 ²	W, all compounds except those given for Y	5E+3 St wall (5E+3)	2E+2	6E-8	2E-10	-	-
		Y, oxides and hydroxides	-	1E+2	6E-8	2E-10	7E-5	7E-4
90	Thorium-227	W, see ^{226}Th	1E+2	3E-1	1E-10	5E-13	2E-6	2E-5
		Y, see ^{226}Th	-	3E-1	1E-10	5E-13	-	-
90	Thorium-228	W, see ^{226}Th	6E+0 Bone surf (1E+1)	1E-2 Bone surf (2E-2)	4E-12 -	-	-	-
		Y, see ^{226}Th	-	2E-2	7E-12	2E-14	-	-
		W, see ^{226}Th	6E-1 Bone surf (1E+0)	9E-4 Bone surf (2E-3)	4E-13 -	3E-14	2E-7	2E-6
90	Thorium-229	Y, see ^{226}Th	-	2E-3	1E-12	-	-	-
		W, see ^{226}Th	-	Bone surf (3E-3)	-	4E-15	-	-
		Y, see ^{226}Th	-	2E-3	1E-12	-	-	-
90	Thorium-230	W, see ^{226}Th	4E+0 Bone surf (9E+0)	6E-3 Bone surf (2E-2)	3E-12 -	-	-	-
		Y, see ^{226}Th	-	2E-2	6E-12	2E-14	1E-7	1E-6
		W, see ^{226}Th	-	Bone surf (2E-2)	-	3E-14	-	-
90	Thorium-231	Y, see ^{226}Th	-	2E-2	-	-	-	-
		W, see ^{226}Th	4E+3	6E+3	3E-6	9E-9	5E-5	5E-4
90	Thorium-232	Y, see ^{226}Th	-	6E+3	3E-6	9E-9	-	-
		W, see ^{226}Th	7E-1 Bone surf (2E+0)	1E-3 Bone surf (3E-3)	5E-13 -	-	-	-
		Y, see ^{226}Th	-	3E-3	1E-12	4E-15	3E-8	3E-7
			-	Bone surf (4E-3)	-	6E-15	-	-

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
90	Thorium-234	W, see ^{226}Th	3E+2 LLI wall (4E+2)	2E+2	8E-8	3E-10	-	-	
		Y, see ^{226}Th	-	2E+2	6E-8	2E-10	5E-6	5E-5	
91	Protactinium-227 ²	W, all compounds except those given for Y	4E+3	1E+2	5E-8	2E-10	5E-5	5E-4	
		Y, oxides and hydroxides	-	1E+2	4E-8	1E-10	-	-	
91	Protactinium-228	W, see ^{227}Pa	1E+3	1E+1 Bone surf (2E+1)	5E-9	-	2E-5	2E-4	
		Y, see ^{227}Pa	-	1E+1	5E-9	3E-11 2E-11	-	-	
91	Protactinium-230	W, see ^{227}Pa	6E+2 Bone surf (9E+2)	5E+0	2E-9	7E-12	-	-	
		Y, see ^{227}Pa	-	4E+0	1E-9	5E-12	1E-5	1E-4	
91	Protactinium-231	W, see ^{227}Pa	2E-1 Bone surf (5E-1)	2E-3 Bone surf (4E-3)	6E-13	-	-	-	
		Y, see ^{227}Pa	-	4E-3	2E-12	6E-15 -	6E-9	6E-8	
91	Protactinium-232	W, see ^{227}Pa	1E+3	2E+1 Bone surf (6E+1)	9E-9	-	2E-5	2E-4	
		Y, see ^{227}Pa	-	6E+1	2E-8	8E-11 -	-	-	
91	Protactinium-233	W, see ^{227}Pa	1E+3 LLI wall (2E+3)	7E+2	3E-7	1E-9	-	-	
		Y, see ^{227}Pa	-	6E+2	2E-7	8E-10	2E-5	2E-4	
91	Protactinium-234	W, see ^{227}Pa	2E+3	8E+3	3E-6	1E-8	3E-5	3E-4	
		Y, see ^{227}Pa	-	7E+3	3E-6	9E-9	-	-	
92	Uranium-230	D, UF ₆ , UO ₂ F ₂ , UO ₂ (NO ₃) ₂	4E+0	4E-1 Bone surf (6E+0)	2E-10	-	-	-	
		W, UO ₃ , UF ₄ , UCl ₄	-	4E-1	1E-10	8E-13 5E-13	8E-8	8E-7	
		Y, UO ₂ , U ₃ O ₈	-	3E-1	1E-10	4E-13	-	-	
92	Uranium-231	D, see ^{230}U	5E+3	8E+3	3E-6	1E-8	-	-	
		LLI wall (4E+3)	-	-	-	6E-5	-	6E-4	
		W, see ^{230}U	-	6E+3	2E-6	8E-9 6E-9	-	-	
92	Uranium-232	Y, see ^{230}U	-	5E+3	2E-6	-	-	-	
		D, see ^{230}U	2E+0	2E-1 Bone surf (4E+0)	9E-11	-	-	-	
		W, see ^{230}U	-	4E-1	2E-10	6E-13 5E-13	6E-8	6E-7	
92	Uranium-232	Y, see ^{230}U	-	8E-3	3E-12	1E-14	-	-	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III
			Occupational Values			Effluent Concentrations		Releases to Sewers
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Monthly Average Concentration (μ Ci/ml)
92	Uranium-233	D, see ^{230}U	1E+1 Bone surf (2E+1)	1E+0 Bone surf (2E+0)	5E-10	-	-	-
		W, see ^{230}U	-	7E-1	3E-10	1E-12	3E-7	3E-6
		Y, see ^{230}U	-	4E-2	2E-11	5E-14	-	-
92	Uranium-234 ³	D, see ^{230}U	1E+1 Bone surf (2E+1)	1E+0 Bone surf (2E+0)	5E-10	-	-	-
		W, see ^{230}U	-	7E-1	3E-10	1E-12	3E-7	3E-6
		Y, see ^{230}U	-	4E-2	2E-11	5E-14	-	-
92	Uranium-235 ³	D, see ^{230}U	1E+1 Bone surf (2E+1)	1E+0 Bone surf (2E+0)	6E-10	-	-	-
		W, see ^{230}U	-	8E-1	3E-10	1E-12	3E-7	3E-6
		Y, see ^{230}U	-	4E-2	2E-11	6E-14	-	-
92	Uranium-236	D, see ^{230}U	1E+1 Bone surf (2E+1)	1E+0 Bone surf (2E+0)	5E-10	-	-	-
		W, see ^{230}U	-	8E-1	3E-10	1E-12	3E-7	3E-6
		Y, see ^{230}U	-	4E-2	2E-11	6E-14	-	-
92	Uranium-237	D, see ^{230}U	2E+3 LLI wall (2E+3)	3E+3	1E-6	4E-9	-	-
		W, see ^{230}U	-	-	-	-	3E-5	3E-4
		Y, see ^{230}U	-	2E+3	7E-7	2E-9	-	-
92	Uranium-238 ³	D, see ^{230}U	1E+1 Bone surf (2E+1)	1E+0 Bone surf (2E+0)	6E-10	-	-	-
		W, see ^{230}U	-	8E-1	3E-10	1E-12	3E-7	3E-6
		Y, see ^{230}U	-	4E-2	2E-11	6E-14	-	-
92	Uranium-239 ²	D, see ^{230}U	7E+4	2E+5	8E-5	3E-7	9E-4	9E-3
		W, see ^{230}U	-	2E+5	7E-5	2E-7	-	-
		Y, see ^{230}U	-	2E+5	6E-5	2E-7	-	-
92	Uranium-240	D, see ^{230}U	1E+3	4E+3	2E-6	5E-9	2E-5	2E-4
		W, see ^{230}U	-	3E+3	1E-6	4E-9	-	-
		Y, see ^{230}U	-	2E+3	1E-6	3E-9	-	-
92	Uranium-natural ³	D, see ^{230}U	1E+1 Bone surf (2E+1)	1E+0 (2E+0)	5E-10	-	-	-
		W, see ^{230}U	-	8E-1	3E-10	9E-13	-	-
		Y, see ^{230}U	-	5E-2	2E-11	9E-14	-	-
93	Neptunium-232 ²	W, all compounds	1E+5	2E+3 Bone surf (5E+2)	7E-7	-	2E-3	2E-2
			-	-	-	6E-9	-	-
93	Neptunium-233 ²	W, all compounds	8E+5	3E+6	1E-3	4E-6	1E-2	1E-1
93	Neptunium-234	W, all compounds	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration ($\mu\text{Ci}/\text{ml}$)
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2		
93	Neptunium-235	W, all compounds	2E+4 LLI wall (2E+4)	8E+2 Bone surf (1E+3)	3E-7 -	-	-	-	-
93	Neptunium-236 (1.15E+5 y)	W, all compounds	3E+0 Bone surf (6E+0)	2E-2 Bone surf (5E-2)	9E-12 -	2E-9	3E-4	3E-3	-
93	Neptunium-236 (22.5 h)	W, all compounds	3E+3 Bone surf (4E+3)	3E+1 Bone surf (7E+1)	1E-8 -	-	1E-10	5E-5	5E-4
93	Neptunium-237	W, all compounds	5E-1 Bone surf (1E+0)	4E-3 Bone surf (1E-2)	2E-12 -	-	1E-14	2E-8	2E-7
93	Neptunium-238	W, all compounds	1E+3 Bone surf -	6E+1 (2E+2)	3E-8 -	-	2E-10	2E-5	2E-4
93	Neptunium-239	W, all compounds	2E+3 LLI wall (2E+3)	2E+3 -	9E-7 -	3E-9	-	-	-
93	Neptunium-240 ²	W, all compounds	2E+4	8E+4	3E-5	1E-7	3E-4	3E-3	-
94	Plutonium-234	W, all compounds except PuO ₂ Y, PuO ₂	8E+3	2E+2	9E-8	3E-10	1E-4	1E-3	-
94	Plutonium-235 ²	W, see ²³⁴ Pu Y, see ²³⁴ Pu	9E+5	3E+6	1E-3	4E-6	1E-2	1E-1	-
94	Plutonium-236	W, see ²³⁴ Pu Y, see ²³⁴ Pu	2E+0 Bone surf (4E+0)	2E-2 Bone surf (4E-2)	8E-12 -	-	5E-14	6E-8	6E-7
94	Plutonium-237	W, see ²³⁴ Pu Y, see ²³⁴ Pu	1E+4	3E+3	1E-6	5E-9	2E-4	2E-3	-
94	Plutonium-238	W, see ²³⁴ Pu Y, see ²³⁴ Pu	9E-1 Bone surf (2E+0)	7E-3 Bone surf (1E-2)	3E-12 -	-	2E-14	2E-8	2E-7
94	Plutonium-239	W, see ²³⁴ Pu Y, see ²³⁴ Pu	8E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 -	-	2E-14	2E-8	2E-7
94	Plutonium-240	W, see ²³⁴ Pu Y, see ²³⁴ Pu	8E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 -	-	2E-14	2E-8	2E-7

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	
			Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average	
			ALI (μ Ci)	ALI (μ Ci)	DAC (μ Ci/ml)	Air (μ Ci/ml)	Water (μ Ci/ml)	Concentration (μ Ci/ml)	
94	Plutonium-241	W, see ^{234}Pu	4E+1 Bone surf (7E+1)	3E-1 Bone surf (6E-1)	1E-10	-	-	-	
		Y, see ^{234}Pu	-	8E-1 Bone surf (1E+0)	3E-10	8E-13	1E-6	1E-5	
			-	-	1E-12	-	-	-	
			-	Bone surf (2E-2)	-	2E-14	-	-	
94	Plutonium-242	W, see ^{234}Pu	8E-1 Bone surf (1E+0)	7E-3 Bone surf (1E-2)	3E-12	-	-	-	
			-	-	-	2E-14	2E-8	2E-7	
		Y, see ^{234}Pu	-	2E-2	7E-12	-	-	-	
94	Plutonium-243	W, see ^{234}Pu	2E+4	4E+4	2E-5	5E-8	2E-4	2E-3	
		Y, see ^{234}Pu	-	4E+4	2E-5	5E-8	-	-	
94	Plutonium-244	W, see ^{234}Pu	8E-1 Bone surf (2E+0)	7E-3 Bone surf (1E-2)	3E-12	-	-	-	
			-	2E-2 Bone surf (2E-2)	7E-12	2E-14	2E-8	2E-7	
			-	-	2E-14	-	-	-	
			-	-	-	2E-14	-	-	
94	Plutonium-245	W, see ^{234}Pu	2E+3	5E+3	2E-6	6E-9	3E-5	3E-4	
		Y, see ^{234}Pu	-	4E+3	2E-6	6E-9	-	-	
94	Plutonium-246	W, see ^{234}Pu	4E+2 LLI wall (4E+2)	3E+2	1E-7	4E-10	-	-	
		Y, see ^{234}Pu	-	3E+2	1E-7	4E-10	6E-6	6E-5	
95	Americium-237 ²	W, all compounds	8E+4	3E+5	1E-4	4E-7	1E-3	1E-2	
95	Americium-238 ²	W, all compounds	4E+4	3E+3 Bone surf (6E+3)	1E-6	-	5E-4	5E-3	
			-	-	-	9E-9	-	-	
95	Americium-239	W, all compounds	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4	
95	Americium-240	W, all compounds	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4	
95	Americium-241	W, all compounds	8E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12	-	-	-	
			-	-	2E-14	2E-8	2E-7		
95	Americium-242m	W, all compounds	8E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12	-	-	-	
			-	-	2E-14	2E-8	2E-7		
95	Americium-242	W, all compounds	4E+3	8E+1 Bone surf (9E+1)	4E-8	-	5E-5	5E-4	
			-	-	1E-10	-	-	-	
95	Americium-243	W, all compounds	8E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12	-	-	-	
			-	-	2E-14	2E-8	2E-7		

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1	Col. 2		
95	Americium-244m ²	W, all compounds	6E+4 St wall (8E+4)	4E+3 Bone surf (7E+3)	2E-6 -	-	-	-	-
95	Americium-244	W, all compounds	3E+3	2E+2 Bone surf (3E+2)	8E-8 -	1E-8	1E-3	1E-2	4E-4
95	Americium-245	W, all compounds	3E+4	8E+4	3E-5	1E-7	4E-4	4E-3	
95	Americium-246m ²	W, all compounds	5E+4 St wall (6E+4)	2E+5	8E-5	3E-7	-	-	8E-3
95	Americium-246 ²	W, all compounds	3E+4	1E+5	4E-5	1E-7	4E-4	4E-3	
96	Curium-238	W, all compounds	2E+4	1E+3	5E-7	2E-9	2E-4	2E-3	
96	Curium-240	W, all compounds	6E+1 Bone surf (8E+1)	6E-1 Bone surf (6E-1)	2E-10 -	-	-	-	1E-5
96	Curium-241	W, all compounds	1E+3	3E+1 Bone surf (4E+1)	1E-8	-	2E-5	2E-4	
96	Curium-242	W, all compounds	3E+1 Bone surf (5E+1)	3E-1 Bone surf (3E-1)	1E-10 -	-	-	-	7E-6
96	Curium-243	W, all compounds	1E+0 Bone surf (2E+0)	9E-3 Bone surf (2E-2)	4E-12 -	-	2E-14	3E-8	3E-7
96	Curium-244	W, all compounds	1E+0 Bone surf (3E+0)	1E-2 Bone surf (2E-2)	5E-12 -	-	-	-	
96	Curium-245	W, all compounds	7E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 -	-	-	-	
96	Curium-246	W, all compounds	7E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 -	-	-	-	2E-7
96	Curium-247	W, all compounds	8E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 -	-	-	-	
96	Curium-248	W, all compounds	2E-1 Bone surf (4E-1)	2E-3 Bone surf (3E-3)	7E-13 -	-	-	-	
96	Curium-249 ²	W, all compounds	5E+4	2E+4 Bone surf (3E+4)	7E-6 -	-	7E-4	7E-3	
						4E-8	-	-	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 Inhalation ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
96	Curium-250	W, all compounds	4E-2 Bone surf (6E-2)	3E-4 Bone surf (5E-4)	1E-13	-	-	-	-
97	Berkelium-245	W, all compounds	2E+3	1E+3	5E-7	2E-9	3E-5	3E-4	
97	Berkelium-246	W, all compounds	3E+3	3E+3	1E-6	4E-9	4E-5	4E-4	
97	Berkelium-247	W, all compounds	5E-1 Bone surf (1E+0)	4E-3 Bone surf (9E-3)	2E-12	-	-	-	
97	Berkelium-249	W, all compounds	2E+2 Bone surf (5E+2)	2E+0 Bone surf (4E+0)	7E-10	-	-	-	
97	Berkelium-250	W, all compounds	9E+3	3E+2 Bone surf (7E+2)	1E-7	-	1E-4	1E-3	
98	Californium-244 ²	W, all compounds except those given for Y	3E+4 St wall (3E+4)	6E+2	2E-7	8E-10	-	-	
		Y, oxides and hydroxides	-	6E+2	2E-7	8E-10	4E-4	4E-3	
98	Californium-246	W, see ²⁴⁴ Cf Y, see ²⁴⁴ Cf	4E+2 -	9E+0 9E+0	4E-9 4E-9	1E-11 1E-11	5E-6 -	5E-5 -	
98	Californium-248	W, see ²⁴⁴ Cf	8E+0 Bone surf (2E+1)	6E-2 Bone surf (1E-1)	3E-11	-	-	-	
		Y, see ²⁴⁴ Cf	-	1E-1	4E-11	2E-13 1E-13	2E-7 -	2E-6 -	
98	Californium-249	W, see ²⁴⁴ Cf	5E-1 Bone surf (1E+0)	4E-3 Bone surf (9E-3)	2E-12	-	-	-	
		Y, see ²⁴⁴ Cf	-	1E-2	4E-12	-	-	-	
			-	1E-2	2E-14	-	-	-	
98	Californium-250	W, see ²⁴⁴ Cf	1E+0 Bone surf (2E+0)	9E-3 Bone surf (2E-2)	4E-12	-	-	-	
		Y, see ²⁴⁴ Cf	-	3E-2	1E-11	3E-14 4E-14	3E-8 -	3E-7 -	
98	Californium-251	W, see ²⁴⁴ Cf	5E-1 Bone surf (1E+0)	4E-3 Bone surf (9E-3)	2E-12	-	-	-	
		Y, see ²⁴⁴ Cf	-	1E-2	4E-12	-	-	-	
			-	1E-2	2E-14	-	-	-	
98	Californium-252	W, see ²⁴⁴ Cf	2E+0 Bone surf (5E+0)	2E-2 Bone surf (4E-2)	8E-12	-	-	-	
		Y, see ²⁴⁴ Cf	-	3E-2	1E-11	5E-14 5E-14	7E-8 -	7E-7 -	

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
98	Californium-253	W, see ^{244}Cf	2E+2 Bone surf (4E+2)	2E+0	8E-10	3E-12	-	-	-
		Y, see ^{244}Cf	-	2E+0	7E-10	2E-12	5E-6	5E-5	-
98	Californium-254	W, see ^{244}Cf Y, see ^{244}Cf	2E+0	2E-2	9E-12	3E-14	3E-8	3E-7	-
99	Einsteinium-250	W, all compounds	4E+4	5E+2 Bone surf (1E+3)	2E-7	-	6E-4	6E-3	-
		-	-	-	2E-9	-	-	-	-
99	Einsteinium-251	W, all compounds	7E+3	9E+2 Bone surf (1E+3)	4E-7	-	1E-4	1E-3	-
		-	-	-	2E-9	-	-	-	-
99	Einsteinium-253	W, all compounds	2E+2	1E+0	6E-10	2E-12	2E-6	2E-5	-
99	Einsteinium-254m	W, all compounds	3E+2 LLI wall (3E+2)	1E+1	4E-9	1E-11	-	-	-
99	Einsteinium-254	W, all compounds	8E+0 Bone surf (2E+1)	7E-2 Bone surf (1E-1)	3E-11	-	-	-	-
100	Fermium-252	W, all compounds	5E+2	1E+1	5E-9	2E-11	6E-6	6E-5	-
100	Fermium-253	W, all compounds	1E+3	1E+1	4E-9	1E-11	1E-5	1E-4	-
100	Fermium-254	W, all compounds	3E+3	9E+1	4E-8	1E-10	4E-5	4E-4	-
100	Fermium-255	W, all compounds	5E+2	2E+1	9E-9	3E-11	7E-6	7E-5	-
100	Fermium-257	W, all compounds	2E+1 Bone surf (4E+1)	2E-1 Bone surf (2E-1)	7E-11	-	-	-	-
101	Mendelevium-257	W, all compounds	7E+3	8E+1 Bone surf (9E+1)	4E-8	-	1E-4	1E-3	-
		-	-	-	1E-10	-	-	-	-
101	Mendelevium-258	W, all compounds	3E+1 Bone surf (5E+1)	2E-1 Bone surf (3E-1)	1E-10	-	5E-13	6E-7	6E-6
Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life less than 2 hours			Submersion ¹	-	2E+2	1E-7	1E-9	-	-
Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life greater than 2 hours			-	2E-1	1E-10	1E-12	1E-8	1E-7

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
			Any single radionuclide not listed above that decays by alpha emission or spontaneous fission, or any mixture for which either the identity or the concentration of any radionuclide in the mixture is not known	-	4E-4	2E-13	1E-15	2E-9	2E-8

FOOTNOTES:

¹ "Submersion" means that values given are for submersion in a hemispherical semi-infinite cloud of airborne material.

² These radionuclides have radiological half-lives of less than 2 hours. The total effective dose equivalent received during operations with these radionuclides might include a significant contribution from external exposure. The DAC values for all radionuclides, other than those designated Class "Submersion," are based upon the committed effective dose equivalent due to the intake of the radionuclide into the body and do NOT include potentially significant contributions to dose equivalent from external exposures. The licensee may substitute 1E-7 μ Ci/ml for the listed DAC to account for the submersion dose prospectively, but should use individual monitoring devices or other radiation measuring instruments that measure external exposure to demonstrate compliance with the limits.

³ For soluble mixtures of U-238, U-234, and U-235 in air, chemical toxicity may be the limiting factor. If the percent by weight (enrichment) of U-235 is not greater than 5, the concentration value for a 40-hour workweek is 0.2 milligrams uranium per cubic meter of air average. For any enrichment, the product of the average concentration and time of exposure during a 40-hour workweek shall not exceed 8E-3 (SA) μ Ci-hr/ml, where SA is the specific activity of the uranium inhaled. The specific activity for natural uranium is 6.77E-7 curies per gram U. The specific activity for other mixtures of U-238, U-235, and U-234, if not known, shall be:

$$SA = 3.6E-7 \text{ curies/gram U} \quad \text{U-depleted}$$

$$SA = [0.4 + 0.38 (\text{enrichment}) + 0.0034 (\text{enrichment})^2] E-6, \text{ enrichment} > 0.72$$

where enrichment is the percentage by weight of U-235, expressed as percent.

NOTES:

1. If the identity of each radionuclide in a mixture is known but the concentration of one or more of the radionuclides in the mixture is not known, the DAC for the mixture shall be the most restrictive DAC of any radionuclide in the mixture.

2. If the identity of each radionuclide in the mixture is not known, but it is known that certain radionuclides specified in this appendix are not present in the mixture, the inhalation ALI, DAC, and effluent and sewage concentrations for the mixture are the lowest values specified in this appendix for any radionuclide that is not known to be absent from the mixture; or

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		

If it is known that Ac-227-D and Cm-250-W are not present

- 7E-4 3E-13

- - -

If, in addition, it is known that Ac-227-W,Y,
Th-229-W,Y, Th-230-W, Th-232-W,Y, Pa-231-W,Y,
Np-237-W, Pu-239-W, Pu-240-W, Pu-242-W, Am-241-W,
Am-242m-W, Am-243-W, Cm-245-W, Cm-246-W, Cm-247-W,
Cm-248-W, Bk-247-W, Cf-249-W, and Cf-251-W

are not present

- 7E-3 3E-12

- - -

Atomic No.	Radionuclide	Class	Table I			Table II		Table III	
			Occupational Values			Effluent Concentrations		Releases to Sewers	Monthly Average Concentration (μ Ci/ml)
			Col. 1 Oral Ingestion ALI (μ Ci)	Col. 2 ALI (μ Ci)	Col. 3 DAC (μ Ci/ml)	Col. 1 Air (μ Ci/ml)	Col. 2 Water (μ Ci/ml)		
	If, in addition, it is known that Sm-146-W, Sm-147-W, Gd-148-D,W, Gd-152-D,W, Th-228-W,Y, Th-230-Y, U-232-Y, U-233-Y, U-234-Y, U-235-Y, U-236-Y, U-238-Y, Np-236-W, Pu-236-W,Y, Pu-238-W,Y, Pu-239-Y, Pu-240-Y, Pu-242-Y, Pu-244-W,Y, Cm-243-W, Cm-244-W, Cf-248-W, Cf-249-Y, Cf-250-W,Y, Cf-251-Y, Cf-252-W,Y, and Cf-254-W,Y are not present	-	7E-2	3E-11	-	-	-	-	-
	If, in addition, it is known that Pb-210-D, Bi-210m-W, Po-210-D,W, Ra-223-W, Ra-225-W, Ra-226-W, Ac-225-D,W,Y, Th-227-W,Y, U-230-D,W,Y, U-232-D,W, Pu-241-W, Cm-240-W, Cm-242-W, Cf-248-Y, Es-254-W, Fm-257-W, and Md-258-W are not present	-	7E-1	3E-10	-	-	-	-	-
	If, in addition, it is known that Si-32-Y, Ti-44-Y, Fe-60-D, Sr-90-Y, Zr-93-D, Cd-113m-D, Cd-113-D, In-115-D,W, La-138-D, Lu-176-W, Hf-178m-D,W, Hf-182-D,W, Bi-210m-D, Ra-224-W, Ra-228-W, Ac-226-D,W,Y, Pa-230-W,Y, U-233-D,W, U-234-D,W, U-235-D,W, U-236-D,W, U-238-D,W, Pu-241-Y, Bk-249-W, Cf-253-W,Y, and Es-253-W are not present	-	7E+0	3E-9	-	-	-	-	-
	If it is known that Ac-227-D,W,Y, Th-229-W,Y, Th-232-W,Y, Pa-231-W,Y, Cm-248-W, and Cm-250-W are not present	-	-	-	1E-14	-	-	-	-
	If, in addition, it is known that Sm-146-W, Gd-148-D,W, Gd-152-D, Th-228-W,Y, Th-230-W,Y, U-232-Y, U-233-Y, U-234-Y, U-235-Y, U-236-Y, U-238-Y, U-Nat-Y, Np-236-W, Np-237-W, Pu-236-W,Y, Pu-238-W,Y, Pu-239-W,Y, Pu-240-W,Y, Pu-242-W,Y, Pu-244-W,Y, Am-241-W, Am-242m-W, Am-243-W, Cm-243-W, Cm-244-W, Cm-245-W, Cm-246-W, Cm-247-W, Bk-247-W, Cf-249-W,Y, Cf-250-W,Y, Cf-251-W,Y, Cf-252-W,Y, and Cf-254-W,Y are not present	-	-	-	1E-13	-	-	-	
	If, in addition, it is known that Sm-147-W, Gd-152-W, Pb-210-D, Bi-210m-W, Po-210-D,W, Ra-223-W, Ra-225-W, Ra-226-W, Ac-225-D,W,Y, Th-227-W,Y, U-230-D,W,Y, U-232-D,W, U-Nat-W, Pu-241-W, Cm-240-W, Cm-242-W, Cf-248-W,Y, Es-254-W, Fm-257-W, and Md-258-W are not present	-	-	-	1E-12	-	-	-	-
	If, in addition it is known that Fe-60, Sr-90, Cd-113m, Cd-113, In-115, I-129, Cs-134, Sm-145, Sm-147, Gd-148, Gd-152, Hg-194 (organic), Bi-210m, Ra-223, Ra-224, Ra-225, Ac-225, Th-228, Th-230, U-233, U-234, U-235, U-236, U-238, U-Nat, Cm-242, Cf-248, Es-254, Fm-257, and Md-258 are not present	-	-	-	1E-6	1E-5	-	-	-

3. If a mixture of radionuclides consists of uranium and its daughters in ore dust (10 μ m AMAD particle distribution assumed) prior to chemical separation of the uranium from the ore, the following values may be used for the DAC of the mixture: 6E-11 μ Ci of gross alpha activity from uranium-238, uranium-234, thorium-230, and radium-226 per milliliter of air; 3E-11 μ Ci of natural uranium per milliliter of air; or 45 micrograms of natural uranium per cubic meter of air.

4. If the identity and concentration of each radionuclide in a mixture are known, the limiting values should be derived as follows: determine, for each radionuclide in the mixture, the ratio between the concentration present in the mixture and the concentration otherwise established in this subsection for the specific radionuclide when not in a mixture. The sum of such ratios for all of the radionuclides in the mixture may not exceed "1" (i.e., "unity").

Example: If radionuclides "A," "B," and "C" are present in concentrations CA, CB, and CC, and if the applicable DACs are DACA, DACB, and DACC, respectively, then the concentrations shall be limited so that the following relationship exists:

$$\frac{C_A}{DAC_A} + \frac{C_B}{DAC_B} + \frac{C_C}{DAC_C} \leq 1$$

APPENDIX

Rule	State or Federal Statute or Federal Regulation Implemented
He-P 4090.01	RSA 125-F:5, V; Appendix B to 10 CFR 20